



Montréal
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CADerivatives

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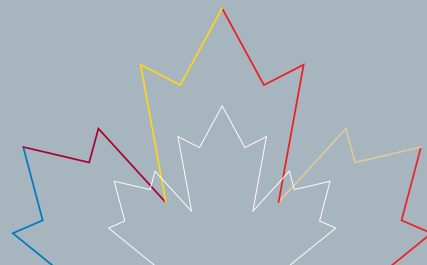
EXAMINING CANADA'S
APPROACH TO
DEBT MANAGEMENT

SPECIAL REPORT
THE TRAILBLAZERS:
OUTSTANDING WOMEN ON
CANADA'S BUY SIDE

CRAIG WRIGHT / RBC



CANADA'S TOP
ECONOMISTS
SET THE RECORD STRAIGHT



CONNECTED
PARTICIPANTS:
MEET QJ TRADER AND
FIDESSA CANADA

MONTRÉAL EXCHANGE
VOLUME AND OPEN INTEREST
TEN YEARS OF EVOLUTION

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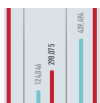
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SETTING A COURSE FOR THE FUTURE



ALAIN MIQUELON
PRESIDENT AND CHIEF EXECUTIVE OFFICER
OF MX AND GROUP HEAD OF DERIVATIVES
MARKET TMX GROUP LIMITED.

Greetings from Montréal. It is my pleasure to once again share the Montréal Exchange perspective on the year to date in Canadian derivatives and provide a status update on some of our recent and upcoming initiatives. I would like to start off by outlining some important recent developments for our broader business.

In June, following an in-depth strategic review that covered all business areas, our parent company TMX Group announced a strategic realignment of the organization to achieve a new vision: to be a technology driven solutions provider that puts clients first. TMX Group defined the necessary steps to successfully execute the strategy, including prioritizing investments and leveraging existing resources and organizational capabilities around five strategic pillars, one of which is the derivatives business.

MX is already working to sharpen our focus on solving challenges and anticipating the needs of our wide range of clients. While we are invigorated by the increasing demand for derivatives products both in Canada and globally, ultimately our future success will be defined by our ability to listen, adapt and evolve. We continue to strive to improve our customer relationships while keeping a close eye on constantly shifting market dynamics. Simply put, you play a vital role in our ability to deliver the types of products and services that can make our markets the best in the world.

As most of you are aware, MX has a proud history of providing leading derivatives products and clearing services to the Canadian and international financial community. MX offers futures and options products across major asset classes, including interest rates, equities, FX, and Canadian stock indices. MX also serves an important function in the stability and viability of Canada's financial markets. Some of our key products, including our flagship STIR, LTIR and index contracts, the Three-Month Canadian Bankers' Acceptance Futures (BAX), Ten-Year Government of Canada Bond Futures (CGB) and S&P/TSX 60 Index Standard Futures (SXF), are widely recognized as Canadian benchmarks.

The recent surge in market volatility has had a positive impact on volumes. Overall MX volume was up 26% in August compared with August of 2014, and up 14% year-to-date. Volume traded in the SXF was up 25% through August compared with last year and up 30% during the 6:00 – 9:15 a.m. early trading session. In August, we also set a new daily volume record on the CGB and reached a new high mark in overall open interest.

And through all types of market conditions, we are reaching out to better serve our existing clients and attract new liquidity and activity. In December 2014, we introduced Weekly Options on a limited number of individual stocks and Exchange Traded Funds (ETFs). The market response to this initiative has been strong; volumes have grown and we have expanded to 25 names. As a result of this early success, we plan to launch multiple weekly expiries this fall.

At the end of July, we introduced futures and options on the S&P/TSX Composite Index Banks (Industry Group) and the S&P/TSX Capped Utilities Index. These new products provide participants with tools to effectively generate returns by economic sector. In August, we eliminated position limits on the SXF and the S&P/TSX 60 Index Mini Futures (SXM) contracts. This initiative is intended to facilitate the ability of our key customers to significantly increase their usage of the SXF.

As we move ahead, it is with mixed emotions that we announced last month that Claude Cyr has moved on from Montréal Exchange. Claude has accepted a new challenge within TMX Group as Managing Director, Energy Commodities & Clearing, NGX effective September 14, 2015.

I would like to thank Claude for his significant contributions to MX and for the passion he brought to the derivatives business.

Looking at some more examples of what is to come; we remain committed to continuing the development of a full sovereign yield curve with deep, liquid markets and in 2016, we plan to launch a Canadian Dollar swap futures contract licensed under the ERIS methodology, which will offer clients a viable, transparent, centrally cleared alternative to OTC swaps.

The success of our new initiatives and innovative products and services will be judged by how they enable our clients to be more successful and make our country's derivatives markets more attractive to domestic and foreign investment.

We also continue our work to broaden the international reach of our markets through our dedicated offices in New York, London and Singapore, through our Trade Canada days in Chicago, San Francisco, Boston and Tel Aviv, and through our event presence in Paris, Hong Kong, Tokyo, Mumbai, Amsterdam, Dubai and Miami.

We hope to see many of you along the way.

Best regards,

Alain Miquelon
President & CEO



BUILDING ON A SOLID FOUNDATION

DECEMBER 2014

Weekly Options were listed on 10 names as a six-month pilot project.

The implied pricing algorithm on BAX Strip strategies was activated, facilitating the interaction of the underlying and their respective strategies in the order book, adding another layer of displayed liquidity.

JANUARY 2015

Two new historical data services were launched, one for trade and quote data, another for trading summary data. They make it easier for clients to identify trading and investment opportunities, and to develop algorithmic strategies.

FEBRUARY 2015

The position limit calculation methodology for front month MX bond futures contracts was changed such that, at the open on the day before the first delivery notice day, it is set at 20% of open interest for that contract month, up to 5% of the outstanding GoC bonds eligible for delivery. Previously, a new limit was calculated each day on daily open interest, potentially draining market liquidity or even exacerbating disorderly pricing.

MARCH 2015

Block trades were introduced on BAX Reds and Greens, at minimum thresholds of 500 and 1,000 contracts respectively. The certainty of price, immediacy of execution and central counterparty clearing that come with these transactions deliver enhanced market efficiency through improved execution quality.

APRIL 2015

The CGF Incentive Program was kicked off under which, for every CGF contract traded, trading fees are waived for three CGB contracts.

MAY 2015

MX was awarded regulatory recognition by the Israel Securities Authority and registered our first foreign approved participant out of Israel, Barak Capital.

JUNE 2015

The Committed Orders functionality was rolled out. It eliminates legging risk in the execution of prearranged transactions (between two approved participants) and of crossed transactions (by one approved participant) which may be executed in zero seconds.

Weekly Options products became permanent and expanded to allow up to 30 names. Client feedback has been very positive and early trading activity has exceeded expectations.

JULY 2015

The fee cap for MX options on ETFs was lowered from 10,000 to 5,000 contracts, on client transactions and on cross and pre-arranged transactions executed by approved participants.

The anti-wash trade functionality was rolled out to prevent the execution of trades involving no change in beneficial ownership. This development protects the markets from inadvertent and potentially deceptive wash trades that could encourage further trading activity before being cancelled, ensuring greater transparency and a more reliable price discovery mechanism for clients.

Listed S&P/TSX Composite Index Banks (Industry Group) Futures, S&P/TSX Capped Utilities Index Futures, Options on the S&P/TSX Composite Index Banks (Industry Group) and Options on the S&P/TSX Capped Utilities Index contracts as a response to market demand for more targeted sector index derivatives, mainly for Canadian financial institutions who need to cover positions in OTC instruments, such as equity swaps. These products offer better risk management per sector, the ability to generate returns per sector, more efficient use of capital, centralized clearing and new trading opportunities.

CLIENT FOCUS: OUR GLOBAL VISION



Understanding and fulfilling the needs of our clients is priority one for the Montréal Exchange. After all, it's thanks to them that both trading volumes and open interest have more than tripled over the past decade.

Our clients are buy and sell side, retail and institutional, domestic and international, so their needs often differ. Operating out of New York, London, Singapore, and across Canada, the MX team of specialists knows them best. That knowledge informs our strategic direction and helps us innovate the right tools to further market liquidity, integrity and transparency.

We're privileged to connect the world to the Canadian derivatives markets with the support, stability and prestige of TMX: a leading global exchange group.

Connect with us today to learn what MX can do for your investment strategy.

The benchmark for Canadian derivatives, MX offers a robust yield curve and range of innovative products. The BAX, CGB and SXF contracts are the cornerstones of our strong STIR, LTIR and index futures offerings. Our growing equity, ETF and index options markets now include a highly successful Weekly Options product line.

EDITOR LETTER

INFORMATION IS THE LIFEBLOOD OF FINANCIAL MARKETS

If there is an underlying theme to the stories in this year's edition, it is the unprecedented breadth and immediacy of information at everyone's fingertips. It's about looking past the forecasts to focus on the stories behind them. What does that mean for financial markets? How do we plan and operate effectively in this environment? Where do we look for the underlying context?

Canada plays host to some of the industry's most incisive minds, each with their own point of view. In these pages, you'll find exclusive interviews with Canada's top economist, four of the top women behind Canada's buy side and two integral connectivity vendors who innovate key developments. Their collective insights convey a solid understanding of the factors influencing the Canadian landscape that make it such an intriguing opportunity for the worldwide trading community.



JEAN-FRANÇOIS BERTRAND
VICE-PRESIDENT, MARKET OPERATIONS,
SERVICES AND CONNECTIVITY,
MONTRÉAL EXCHANGE.

Jean-François and his Operations Team made up of experts on connectivity, client services and everything in between, does everything possible to meet the needs of market participants from around the world and to facilitate the smooth delivery of vast ranging technological developments.



GLADYS KARAM
DIRECTOR, EQUITY DERIVATIVES,
MONTRÉAL EXCHANGE.

Gladys and her Equity Team specializing in equity, ETF, index and currency derivatives work extensively with retail and institutional market participants, both domestically and internationally, to expand and progress Canadian equity derivatives markets.



JOANNE ELKAIM
DIRECTOR, FIXED INCOME DERIVATIVES,
MONTRÉAL EXCHANGE.

Joanne and her Fixed Income Team covering the full range of interest rate and bond derivatives, is committed to working with the global derivatives community to develop a full sovereign Canadian yield curve.



A. MICHELLE MACADAM
Editor in Chief

What's your take?

Let us know with a letter to the editor.
Write to: caderivatives@m-x.ca

CADerivatives

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We are **CANADA'S BENCHMARK**

CONTRACTS

ONX 30-Day Overnight Repo Rate Futures

OIS Overnight Index Swap Futures

BAX Three-Month Canadian Bankers' Acceptance Futures

OBX Options on Three-Month Canadian Bankers' Acceptance Futures

CGZ Two-Year Government of Canada Bond Futures

CGF Five-Year Government of Canada Bond Futures

CGB Ten-Year Government of Canada Bond Futures

OGB Options on Ten-Year Government of Canada Bond Futures

LGB 30-Year Government of Canada Bond Futures

EMF FTSE Emerging Markets Index Futures

SCF S&P/TSX Composite Index Mini Futures

SXA S&P/TSX Global Gold Index Futures

SXB S&P/TSX Capped Financials Index Futures

SXF S&P/TSX 60 Index Standard Futures

SXH S&P/TSX Capped Information Technology Index Futures

SXK S&P/TSX Composite Index Banks (Industry Group) Futures

SXM S&P/TSX 60 Index Mini Futures

SXU S&P/TSX Capped Utilities Index Futures

SXY S&P/TSX Capped Energy Index Futures

SXJ Options on the S&P/TSX Composite Index Banks (Industry Group)

SXO S&P/TSX 60 Index Options

SXV Options on the S&P/TSX Capped Utilities Index

USX Options on the U.S. Dollar

Equity and ETF options

Weekly Options



CANADA'S TOP ECONOMISTS SET THE RECORD STRAIGHT

Canada's banking sector, acknowledged as the world's soundest every year since 2008, is dominated by the big six banks. Arguably the foremost authorities on Canada's prospects, the Chief Economists of BMO, CIBC, National Bank, RBC and Scotiabank, and the former Chief Economist of TD (now Vice President of Economic Analysis for the C.D. Howe Institute) each honoured us with an exclusive interview at which we discussed their takes on our most pressing questions.

What took us most by surprise was the extent of their divergence of opinion. Nor did we anticipate the range of arguments on points where they did agree, such as why Canada's unprecedented debt to disposable income levels aren't the cause for concern you'd expect.

And it's just those contrasts we find so riveting. We know you will too.



DOUG PORTER



AVERY SHENFELD



CRAIG WRIGHT



STÉFANE MARION



CRAIG ALEXANDER



WARREN JESTIN





Scotiabank is Canada's most international bank, providing financial services to over 21 million customers in more than 55 countries, with a team of 87,000+ employees. Scotiabank's Chief Economist, Warren Jestin, and his team provide in-depth research on global economic, policy and financial market developments. During his four decades in the business, Warren has worked in the Bank of Canada's Research Department and taught at a number of Canadian Universities. He also works closely with many charitable organizations.

Warren talked with us about the domestic and international factors influencing the economic outlook. In Warren's Insights, we share the highlights with you.

WARREN JESTIN

On BoC policy

While the BoC targets inflation, not the exchange rate, its decisions can have an important influence on the CAD. The BoC is expected to lag the Fed when it begins raising interest rates in 2015, and may even stay on the sidelines through 2016. The weakness in commodity prices, relative strength of the US economy and more accommodative BoC policy stance all point to a soft and volatile CAD. I think the CAD will centre around \$0.75 USD with risks to the downside because movements in oil prices will dominate the currency outlook. Scotiabank's forecast for light sweet crude oil averages \$54 USD in 2015, rising to the high \$50s USD in 2016. A low CAD would help non-commodity exports, which the BoC hopes will provide some offset to weakness in other parts of the economy.

On the departure from forward guidance

Forward guidance using specific indicators such as the unemployment rate doesn't work because the jobless rate can be moved around by factors that don't necessarily reflect the goals of monetary authorities such as the Fed. For example, the jobless rate can go down both because of a rise in employment or a decline in people looking for work. The Fed has used other forms of guidance, using words such as 'patience' in describing when it would begin raising interest rates, but in reality it will be watching a wide variety of key economic indicators as a guide in deciding when to ease up on the accelerator and begin raising rates. If the economy begins to slow when the Fed starts nudging rates higher, it will pause, so that the path to higher rates may be both uneven and moderate. The "taper tantrum" in 2013, triggered by musings that the Fed would eventually be cutting back on QE, revealed that there is significant upside risk to longer-term interest rates when the Fed moves away from its "nearly zero" interest rate policy stance. Overall, I believe that the rate on the benchmark US government 10-year bond could rise to about 3% by the end of 2016, about a percentage point above levels seen earlier in 2015 but still very low by historical standards.

On the change at the BoC helm

The shift to a more accommodative monetary policy stance that occurred after Governor Poloz took over from Governor Carney was not so much due to a difference in views as it was to a change in economic conditions both here and abroad. The biggest shift

THE CANADIAN ECONOMY BEGAN LOSING MOMENTUM JUST AS THE US ECONOMY BEGAN TO GET INTO GEAR

occurred in commodity prices as slower and more uneven growth in emerging markets caused commodity prices to weaken. The Canadian economy also began losing momentum just as the US economy began to get into gear. These trends have continued, particularly with the dramatic fall in oil prices that undercut growth in resource-rich provinces like Alberta.

On the Fed tightening

When the Fed eventually begins raising interest rates, it won't be a tightening of policy but a lessening of pressure on the accelerator, which is currently pedal-to-the-metal, and was put in place after the financial crisis to get the US economy going. The Fed probably wants to keep growth at or above 3% for a while and will stop raising interest rates if there is a risk of relapse in the economy. The Fed has been able to end new purchases under QE without triggering a selloff in the bond market because US economic fundamentals have improved and, in today's highly uncertain world environment, there is strong investor interest in the safety, security and liquidity of the US market. However, the Fed will be very cautious about unwinding purchases and will go slowly to avoid a spike in bond yields, which could undercut growth. With the Fed in no hurry, it could extend the unwinding of its balance sheet into the early part of the next decade.

On the US economic outlook

While the US economy still has its problems, consumers have pent-up demand and are spending because incomes and jobs are moving up and household balance sheets have improved. Stronger consumer confidence will support the housing market and business investment. Exporters have been challenged by a rising USD, but nearly half of foreign US sales go to the emerging world and are focused on infrastructural products and

Warren Jestin

services, which are often associated with long lead times and order books. Governments also are no longer retrenching and holding the economy back in the way that occurred during the prolonged unwinding of fiscal excesses, which culminated during spending cutbacks commonly referred to as the “fiscal cliff”. With Washington’s deficit now back to pre-financial crisis levels, below \$500 billion, the focus is on measures that nurture rather than hurt economic activity. Moreover, US governments seldom overachieve when it comes to deficit reduction.

On Europe and Japan

The Eurozone has serious structural issues that monetary policy alone cannot fix. Population is flat to down, youth unemployment rates are high and even though deficits have receded, debt levels are growing. In this environment, it will be difficult sustaining economic growth much above 1%–1.5%, even for a short period. The ECB’s massive QE stimulus has brought rates down dramatically, but even zero or negative rates won’t solve the longer-term economic, structural and social issues confronting a number of European nations. The demographic and fiscal issues facing Japan are even more challenging. The combination of massive policy stimulus and weak economic fundamentals points to further erosion of the Euro and Yen against the USD.



On the use of monetary policy to weaken currencies

Many countries such as Australia, Japan and Switzerland have changed policy to reduce the value of their currency. The relative weakness of Europe and Japan, alongside the unevenness in emerging markets, has caused investors to refocus on the US markets as a source of attractive risk-adjusted rates of return. The net result is a broad-based USD strengthening. The volatility in commodity prices also spills over to currencies, however, leaving markets prone to sudden shifts, as we have seen in the AUD and CAD. Global econometric models tend to indicate that a big drop in oil prices is positive for overall growth because it reduces energy prices for consumers and other users. But dramatically lower oil prices create a complex web of winners and losers, with the associated rise in uncertainty with respect to the net impact on earnings and investment undermining overall stimulus.

On Canada’s outlook

Ontario and BC will likely lead Canadian growth through 2016, though it’s not a hard race to win. The rebounding US market and lower CAD is good news for exports, but the plunge in energy markets has undercut activity in resource provinces such as Alberta so that overall Canadian growth will struggle to get to 2%. Manufacturers and other exporters aren’t likely to ramp up long-term investments because the currency outlook is still highly uncertain. I see the strength in manufacturing is likely to come

from firms that offer higher value-added goods and services that are skills-based, focused on global markets and have developed niches in broader supply chains. In auto parts, Linamar is a good example of a high value-added niche market producer. Across the country, small and medium-size businesses with very specific niche markets and a global vision can do, and in many cases have been doing, quite well.



On Canada’s record debt to disposable income ratio

Canada got back to record levels of employment much faster than most economies and, with the lowest interest rates in our lifetimes, the incentive to borrow to buy was very strong. Even with near-record debt to disposable income, Canadian household balance sheets are in better shape than south of the border. For example, equity invested in housing is higher here and low interest rates have helped home owners pay down mortgage debt and build equity faster. Remember that many families rolling three and five year mortgages are now seeing their rates go down, not up. However, the ability to reduce debt relative to disposable income, when interest rates eventually begin to rise, may be constrained by slow income and job growth. With home ownership at a record level and purchasers facing tighter conditions because of changing government regulations, the outlook for residential construction and housing activity is much softer over the next half decade than has been the case for most of the period since the start of the millennium. The two factors that typically could lead to a setback in the housing market are significantly higher interest rates or a run-up in job losses. While neither is likely through 2016, longer-term rates in Canada will rise as US yields go higher and employment growth on this side of the border has already slowed.

On oil

There are many reasons why oil prices have plunged – slower global growth, rising North American production and the decision by Saudi Arabia to regain lost market share by not cutting production in a weakening oil market environment. As global oil prices begin to rise significantly above \$60 USD, production from shale is likely to begin coming back on stream. This will dampen the rise in prices, suggesting that we won’t return to \$80 USD plus oil anytime soon. Lower oil prices hurt many countries in the Middle East, as well as Russia, Venezuela, etc. From a Canadian perspective, however, it suggests that growth in energy-producing provinces will be much weaker towards the end of the decade because investment in new activity will remain soft. With oil and gas prices quite low, the arithmetic behind oil and gas pipelines and liquefied natural gas plants is also much weaker.

Dated as July 2015.



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WEEKLY
Options

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National Bank of Canada

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Royal Bank of Canada
Silver Wheaton Corp.
Suncor Energy Inc.
Teck Resources Limited., Cl. B
Toronto-Dominion Bank (The)
Yamana Gold Inc.



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Craig Alexander is V.P. Economic Analysis with the C.D. Howe Institute, one of Canada's leading economic think tanks. He joined the institute in July of this year after serving for five years as the Chief Economist for TD Bank Group. With more than \$1 trillion in assets and 79,000+ employees serving over 22 million clients worldwide, TD Bank Group is the second largest Canadian bank and eighth largest US bank on the basis of deposits. Craig Alexander is the former two-term President of the Canadian Association for Business Economics (CABE) and is a current Director for the U.S. National Association for Business Economics (NABE). He writes an array of research and travels the U.S. and Canada, speaking at 100+ events on economic and financial developments each year.

Craig has spent 22 years in the economics arena, in both the public and private sectors. He's an advocate for literacy and a champion of the charitable sector.

Having covered both Canada and the US for TD Bank Group, and split his time between the two, Craig has a unique perspective. He let us in on key challenges and opportunities facing the two countries. In Craig A.'s Insights, we share the highlights with you.



CRAIG ALEXANDER

On BoC policy

The Bank of Canada has cut rates twice so far in 2015 to provide more monetary stimulus to offset the negative impact of falling oil prices on the economy. The easing in January was not priced into financial markets, as the action was not well telegraphed to investors. In hindsight, there were signs in advance. You just had to read the tea leaves correctly. Governor Poloz indicated several times that he was not confident that traditional economic and financial models were strongly predictive in the current environment. Most models said the Canadian economy should be resilient and only experience slower economic growth. What if the models were wrong? Governor Poloz indicated that he felt that monetary policy should be approached as an exercise in risk management. The large drop in oil prices was ultimately going to be negative, but no one knew exactly how negative. Given the uncertainty, a risk management approach supported the decision to cut rates in January. After all, if it was the wrong action, policy could always reverse course without threatening the Bank's inflation targeting mandate. The January communiqué was clear that the Bank was taking out an 'insurance' policy against a material weakening of the economy. While many market participants were critical of the surprise, the data since January has entirely justified the cut. Moreover, the Bank followed up the easing in January with another quarter point cut in July. Some have argued that the Bank's rate cuts have not been effective because the economy still contracted in the first quarter and further in the early part of the second quarter. This criticism is entirely unfair. There are limits to what monetary policy can do. Interest rates were already incredibly low, so the stimulus from additional easing is limited. Moreover, the full impact of rate cuts is felt over a 12-18 month period. The Bank could not stop the economic weakening, but the policy easing will help to temper the extent of the decline. I would contend that the greatest benefit to the economy from the Bank's rate cuts is not from lower interest rates, but rather the weaker Canadian dollar that has resulted from the policy actions and will improve Canada's export competitiveness. The loonie has lost ground not only in response to the contraction in the economy, but also in reaction to divergent monetary policy in Canada and the United States. It is very rare for monetary policy in Canada to be eased when the central bank in the U.S. is gearing up to tighten. It should be clear to all that Governor Poloz stands ready to take further action if necessary. However, the scope for further easing is limited and additional cuts will only occur if the Bank is forced to further downgrade its economic and inflation outlook. Canadian economic growth should gradually improve in the second half of this year and into next, but there are downside risks that cannot be ignored.

On oil

As oil prices tumbled, economists debated how negative the economic impact would be. The uncertainty came from the mixed positive and negative impacts of lower energy prices, and the timing of the effects. The value of energy exports and capital spending by the energy sector will be significantly lower, with knock on effects to other industries. However, households will save hundreds of dollars on gasoline expenditure, much of which can be shifted into spending on other goods and services. Falling oil prices also weaken the Canadian dollar, which is good for exporters. As a result, forecasts for Ontario and BC have been lifted, while those for energy-rich Alberta, Saskatchewan and Newfoundland have been slashed. However, the confidence in economic projections has been weak, while the range of outcomes has been broad. As the

FROM AN INVESTOR PERSPECTIVE, WHETHER CANADA HAS HAD A RECESSION IS IMMATERIAL

year unfolded, the data has revealed the negative impact of falling oil prices, but this has been compounded by a slowdown in the China that has weighed on prices for many non-energy commodity prices. Moreover, the U.S. economy once again delivered a disappointing performance early in the year, hampering Canadian non-energy exports. The combined impact of these forces led the Canadian economy to contract in the first quarter, with further monthly declines in the first couple of months of the second quarter. This raised the issue of whether Canada is experiencing a recession. From an investor perspective, whether or not Canada has had a recession is immaterial. We know the Canadian economic expansion has faltered. Moreover, the decline in oil prices looks to be sustained. Forecasts for oil prices have come down significantly in futures markets. The global oil glut is likely to persist, as will China's economic slowdown. This suggests that low oil prices will be with us for some time; and, even when they rise, they will not return to their prior highs.



On personal income debt levels

Personal debt levels have gone too far and would pose a material economic risk if there were a major unemployment or interest rate shock. In the near term, the risk of that seems to be low. While the Canadian economy has weakened, we have not seen a sharp increase in unemployment at the national level. Job losses have occurred, but primarily in select energy-rich provinces. Meanwhile, interest rates have fallen. When the Bank cut rates earlier in 2015, people questioned if that would worsen the personal debt problem, but we've had such low rates for so long, interest rates going a smidgen lower won't have a big effect. Personal debt growth has slowed and is broadly running in line with income. It was rising at a double digit annual pace before the 2008 recession, dramatically in excess of income growth. This was worrying. Before the economic slump this year, debt growth had slowed to a pace roughly in line with income growth. So, Canada wasn't unwinding the indebtedness problem, but we weren't adding to it in the same way. Now interest rates have come down, and housing markets outside of the energy-rich regions, particularly Vancouver and the GTA, have strengthened. In the coming months, the data will likely show personal debt growth in excess of income growth, leading the debt-to-income ratio to climb a bit on rising mortgage debt. However, the vulnerability of the financial system to the high level of personal debt is limited. If we do get an unemployment or interest rate shock in the future, the main threat isn't that vast numbers of people will default on their debts. The bigger risk is that if Canadians have a harder time meeting their obligations, they'll cut back on spending. The consumer is 60% of GDP, so any curtailment of expenditure would be a major blow to the economy. A key implication is that when the economy is stronger and the Bank wants to eventually raise rates, it will have to happen a lot slower than in the past. We've made debt incredibly cheap. It's a little like a drug and the Bank will have to wean Canadians off of it gradually. For investors, the implication is that low bond yields are here to stay for a very long time.

On the Fed raising

I think the Fed starts raising rates in 2015 but in an incremental, drawn out way. The US economy has shown its fragility over recent years. Since the recovery began, every time they started doing better something came along to knock them off their stride, and it didn't take much. The Fed is seeing the US as close to full employment, but wage growth is still modest and that's where you get the debate about timing. Much like the Bank of Canada in 2010 took the opportunity to get the overnight rate up to 1% when the economy was doing better, the Fed could do something similar, going up to 1% and then stopping to assess how the economy and financial markets are coping.

On shrinking the Fed balance sheet

I think they'll continue to reinvest because otherwise bond yields will rise, and while they want to get short term rates up, they won't want sharply higher yields across the curve. A key reason to get the Fed funds rate to 1% is that the US financial system wasn't designed to operate on a zero cash return. It creates undesirable distortions in their economy. In my dealings with Fed officials, the messages I've heard as to the timing of rate hikes are that they're concerned with soft wage growth but they definitely want the funds rate off of zero. The exit strategy is complex. Pre-crisis they'd simply change the benchmark short term rate to control the target Fed funds rate, which they could do because of the limited reserves in the system. Now they can't, because of the Fed's hugely bloated balance sheet. The banks have money parked at the Fed, so the Fed can influence short term rates by changing the rates on excess reserves, increasing what they're offering to push up short term rates. Since they won't have the same control, they've talked about targeting ranges, such as aiming for a Fed funds rate between a quarter and a half point and then raising that range. They'd have to drain reserves from the system to achieve their goal, and that would drain deposits from the financial system. With QE, they went to the market and said, "give me the bonds, here's your cash." They effectively created deposits in the economy. In the exit strategy, to control short term rates, they'll have to drain reserves from the system over time, which will take those deposits back out of the economy. It's different, but related to reinvesting maturing bonds, because to drain money to get rates where they want them, they'll reinvest everything except the amount they need to drain. They've thought about this an awful lot. When they tighten policy, their approach will have to be communicated so that markets can get their heads around it. Financial institutions have to understand what the tightening actually means. There are implications to running unconventional monetary policy for so long.

On uncertainty

If you asked me to find another seven year period with as much economic and political uncertainty as we've had from 2008 to 2015, I'd be hard pressed to do it. Still, we're far better off today than we were in 2008. When Lehman Brothers failed, if policy makers hadn't gotten the policy action response right, we could have had a depression. I remember those days acutely. The spectrum of outcomes that could have happened in 2008 was huge. As frustrating an outcome as we've had since 2008, it could've been so much worse. It's like bond investors today, in North America they scream about not even making inflation. But, shockingly, North America is a high yield bond market when you compare yields to those in Europe.

Dated as July 2015.

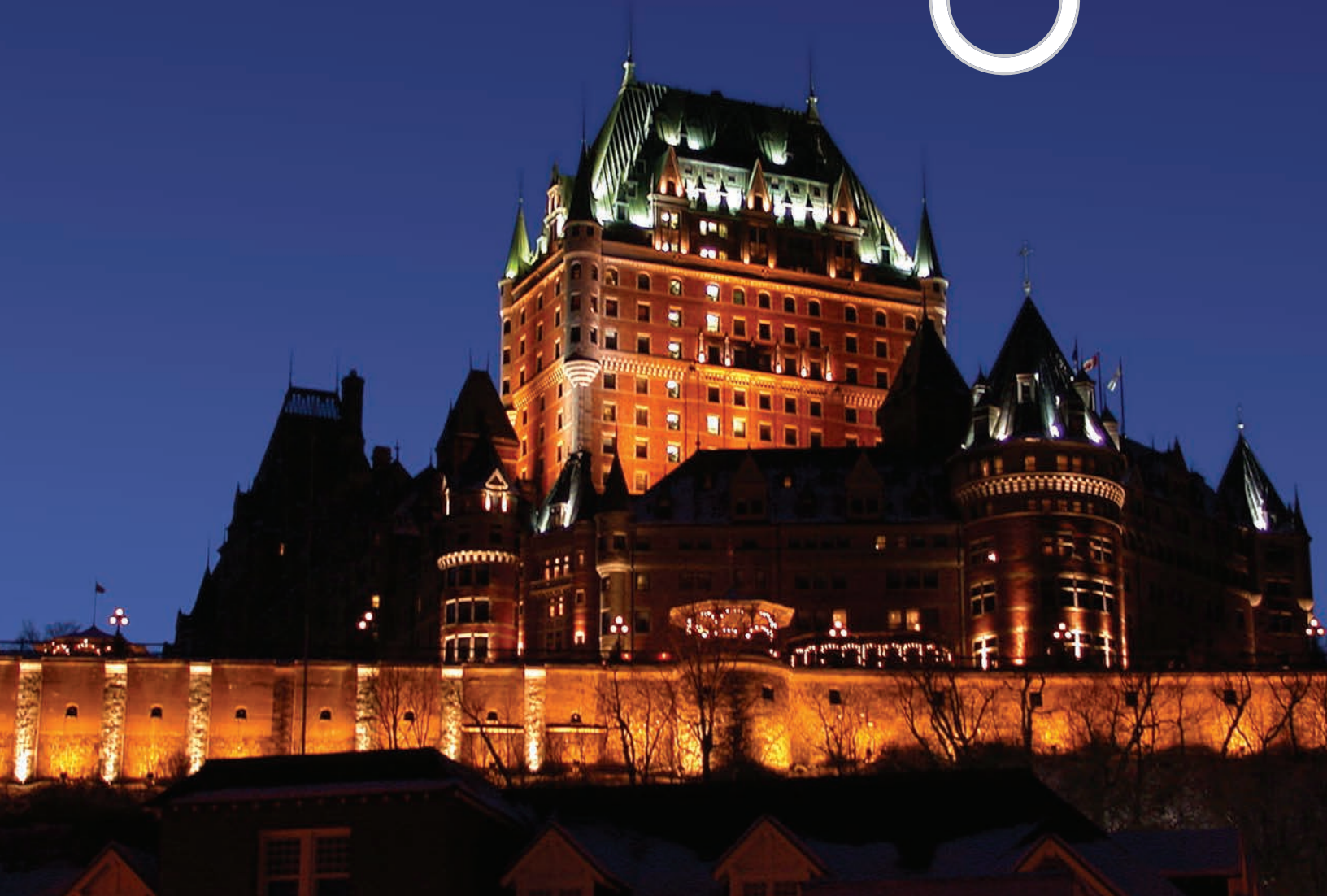
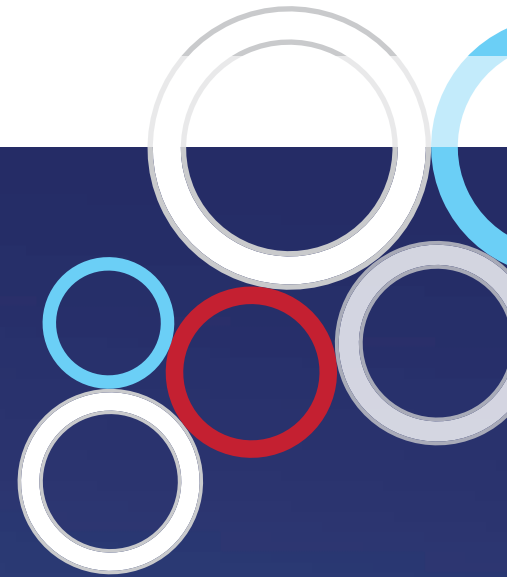
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With more than 21 years in the industry, Avery is a six-time winner of the Dow Jones Market Watch forecasting award and has won other awards for forecast accuracy on the US and Canada from Bloomberg Markets and Consensus economics. He is regularly ranked as a top Canadian economist by institutional investors.

Avery dispels the misunderstandings and gets straight to the point, identifying the signals to watch for and what they indicate. In Avery Shenfeld's Insights, we share the highlights with you.

AVERY SHENFELD

On personal debt levels

I don't see Canada having an economic shock because of a wave of defaults. Behind those aggregate numbers, how is the debt distributed relative to income? Average debt divided by average income can be misleading. Canada hasn't followed the US example of distributing a lot of the debt to the people without the income in their jobs to pay it back. Where the higher debt number does raise a risk is, when a recession does hit for some other reason, the more the losses would be per defaulting household. The BoC knows perfectly well that, when it's time to raise, each 100 basis point hike will be a greater restriction on activity than it would've been when people carried less debt. Take on the debt at a very low rate and a 200 basis point move doubles the payments on a floating rate mortgage. The BoC understands that and has said, when the time to raise comes, it'll be a slower path. They're much too smart to hike aggressively and be shocked that Canadians are defaulting.

On housing

If a correction took us back to where housing prices were in 2012, that wouldn't be a disaster. Ask a Canadian in a house worth \$1,500,000 if they'd stop going out to dinner it went back to \$1,000,000, most would say no. What does concern me is much of the pre-2014 economic growth came from ever increasing numbers of homes under construction. A lot of people are still working on these condo towers across Canada. Where will they be employed when that pace cools off? Replacing housing's growth contribution is an important challenge, but I'm not concerned that a price correction would be a calamity. The US story in 2007–2008 was not about the fall in house prices, it was about the wave of mortgage defaults that ruined the financial system and household sector. We have a growing but still very small slice of the mortgage market that's a bit riskier that's not coming from the major deposit taking institutions. It's a bit less regulated. You can go out and get a private mortgage from someone on any terms that you and they agree on. The BoC drew attention to the fact that that segment of the market is growing quickly, but while it's grown quickly in percentage terms it's still a tiny percentage of the market. The trouble is that we can't afford to slow the housing market down too quickly because, in the wake of energy sector weakness, we don't have a lot of other cards to keep the economy growing. Ideally, the global economy will improve, Canada's overall export and capital spending performance by business will improve, and we'll be able to afford a correction in housing construction and house prices without denting economic activity.

On Canada's boom-bust cycle

We were always more concentrated on cyclical industries like manufacturing and resources and will always be a bit more cyclical on average. That didn't play out in the last recession because we didn't have the housing collapse most others did. Most recessions have been more severe for Canada. The challenge is that we let a lot of our manufacturing sector disappear while the CAD was overvalued because of heavy interest in buying Canadian bonds. It wasn't an oil story, it was a bond market story. We were running a large trade deficit when the CAD was at parity, so it was the capital flows into our bond market. The problem is that it came as we exited the global recession and there was lots of extra capacity elsewhere, particularly in North America. A large number of companies came to a decision at the same time about where they'd close facilities, and Canada was hit disproportionately because the exchange rate looked uncompetitive. Having reversed that move, we're now in a better position to win the next plant, but that's a gradual process. It won't be as rapid fire as the plant closures. There's still a challenge in that Canada and the US now have to compete with places like Mexico and on wages they're still a lot cheaper. But not everything moves to Mexico. There are geographic and other advantages in this part of the world. Our analysis suggests a \$0.77 to \$0.82 CAD will make Canada reasonably competitive to attract new investments. We'll put that to the test over the next five years and see how it goes.

I THINK THE CAD WILL STAY LOW FOR DECADES

I think the CAD will stay low for decades. A CAD in the high \$0.70's, low \$0.80's is normal and as good a guess as any of where it'll be five years from now.

On oil supply

Iran is negotiating with the US over its nuclear program. If it signs a deal, the sanctions come off and they ramp up production, at least an extra 500,000 barrels per day. There goes another few months of waiting for oil to come back. They say they can produce an extra 1,000,000 barrels a day which would be really significant. They had fields that, historically, did produce that but these things gather cobwebs so we need to know what condition those assets are in and how quickly they can get back up.

On undoing the Fed balance sheet

A lot of people misunderstood quantitative easing, even Ben Bernanke used the term money printing, which isn't accurate. They didn't print money to buy bonds, they built up deposits from banks held at the Fed that are now part of the money supply. They have a fractional reserve system, so a US bank with more reserves can lend more, spurring money supply growth. Except you also need tier one capital and the risk tolerance to lend. We never saw an explosion of lending. Raising the rate on deposits held at the Fed will control the pace at which lending takes place in the economy. So the Fed doesn't ever have to adjust its balance sheet.

Europe has consistently run a **BETTER CURRENT ACCOUNT** than the US

On raising long term US rates

For long rates to move in the US, markets have to price in more of the Fed hike cycle than they have and the global love affair with the USD has to come to an end. European rates are low or even negative, that's not going to change significantly in the near or medium term. Can US and Canadian rates diverge significantly from those in Europe? There was a period where Japan had 1-1.5% 10 year rates while North America had 5.5% 10 year rates, so rates can diverge across countries, but the currency has to be seen as a negative place to park your money. Essentially, the Euro has to get cheap enough that investors are no longer convinced it's worth it to use their Euros to buy US Treasuries or Canadian bonds for a higher yield, because they might lose on a Euro rebound. People don't yet look at the Euro and say, it's so cheap, maybe I can recapture some of those losses over the next five years. My view is we're getting close to that. It becomes cheap at the level where people look at trade and current account balances and question whether the USD can sustain and the Euro be so sustainably cheap. Already the US trade balance doesn't look particularly good, even with the reduction in the cost of their oil imports. Europe has consistently run a better current account than the US. At these exchange rates, Europe should become quite competitive on the trade front against the US. European vehicles, for example, could be made quite competitively against those in the US. A few months of better economic growth in Europe will draw away the cloud of gloom, get people looking at fundamentals other than the currency, including trade. If Europe returns to 1.5-2% growth, that's a big improvement. I'm bullish on Europe's trade numbers.

To sustain **2% INFLATION** we need to be closer to full employment

On monetary policy

Monetary policy is being used to reach the inflation target but to sustain 2% inflation we need to be closer to full employment. We're at the point in the business cycle where we've run the course on what we can get from housing and debt financed consumption. We need to do better on exports and, as keeping interest rates down weakens the exchange rate, it plays into that goal. Governor Poloz will protest that he doesn't have a target for the exchange rate, I've never accused him of that. What I have said is that he understands that keeping rates below where the US will be down the road will help the CAD stay lower and that'll be important to getting the growth transition to exports he wants to see.

On Canada's corporate bond market

The corporate bond market really matured in Canada in recent decades because governments didn't have the same borrowing requirements they had in the early 1990's. Canada's corporate bond market had been fairly immature because the federal and provincial governments were borrowing so much that corporates essentially borrowed elsewhere. Even though some provinces are now facing rising deficits, overall the government doesn't absorb nearly the share of savings it once did and that's made Canada a very viable market for both domestic and foreign issues. It's much deeper than it had been. We don't see much default risk in the domestic corporate bond market. Some worry that household debt will lead to a blow up that hits our banking system, but they don't understand the nature of the insurance on the mortgage books nor the issue of who has the debt and what their income is. Our subprime credit market is much smaller than the US had in 2007. Not everything is oil. Look at Ontario and Quebec. They are the two most populous provinces and are oil importers, and the weaker CAD will help them do better on the export front as well. Canada isn't Saudi Arabia, oil was a significant source of growth but it isn't the only story in the economy.

On uncertainty

It's an unusual time in that one country is doing well and others not, there's a big global divergence. The early days of the global financial crisis were far more uncertain though. Had governments not pulled the right strings, there may have been a massive financial failure. For a few weeks, things looked pretty grim. For Canada things are fairly uncertain, the drop in oil was a big shock. Last time it was a global recession story, not an oil story. The time before that was the Asian crisis, but oil was a much smaller share of the Canadian economy then.

Dated as July 2015.



Neil sold 200 calves while saddling his horse.

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One of the world's 100 most sustainable corporations for 2014 and 2015, and one of Canada's best diversity employers, BMO Financial Group's staff of 46,000+ employees serves over 12 million customers internationally. Porter, Chief Economist of BMO Capital Markets, has 25+ years' experience analyzing global economies and financial markets, some of that spent at the Bank of Canada. His team won the prestigious Lawrence R. Klein Award, named for the late Nobel Prize winner, for the most accurate US economic forecast.

Named best Canadian forecaster by Bloomberg for the two year period ending in 2012, Doug sits on the C.D. Howe Institute's Monetary Policy Council.

Doug talked openly about his perspectives on policy changes and the nature of the structural and demographic shifts taking place, and laid out his expectations for what's to come. In Doug Porter's Insights, we share the highlights with you.

DOUG PORTER

On the departure from forward guidance

There's a difference between explicit forward guidance and giving some broad guidelines of which way the Bank is leaning. I understand why the BoC doesn't want to get boxed in by explicit guidance but I don't see why they don't give an idea of which way they're leaning. Forecasters are at sea, we don't know what their reaction function is or what specifically prompted the January rate cut. The market thinks it knows, but only time will tell. Clearly oil prices are key to BoC decision making. Still, I find it remarkable that they first cut rates when core inflation, their guidepost, was above target, and when GDP growth was above potential. We'll be watching indicators of growth and slack in the labour market and in GDP very closely.

On the relevance of oil to the Canadian economy

The direct impact of oil and gas we calculate as close to 6% of GDP, not taking into account oil and gas related industries. Before prices fell, total energy exports made up just above a fifth of overall exports, so it is arguably the single most important Canadian industry. The drop in oil prices was a significant enough hit for the BoC to decide to cut interest rates twice.

THE DIRECT IMPACT OF OIL AND GAS WE CALCULATE AS CLOSE TO 6% OF GDP

On US interest rates

We see the Fed raising rates significantly in the latter part of 2015 and in 2016, though if there's any major surprise in the global economy it's possible they'll pause for a while longer yet. I think they learned from the last tightening cycle and won't be as consistent; it led to a build-up of unsustainable borrowing and risk taking that ultimately led to the financial crisis. I think the new neutral will be much lower than we'd previously thought. The Fed funds rate might only get to 3% or so before the cycle stops. It may be a bit premature to talk about where the tightening cycle stops when it hasn't started, but it's an important element in

long term bond yield pricing. We think the Bank of England won't be far behind the Fed, and that BoC will follow as well, raising rates in early 2017. Given that the world is on hold or easing, that oil is so low and headline inflation in the US is now negative, the Fed can still take their time. We see the main driver as the rapidly strengthening US labour market and expect unemployment to drop below 5% by the end of 2015. It'd be tough to defend keeping rates at effectively zero with unemployment below its long run average and a markedly improving economy.

On the Fed's balance sheet

You can make a case that the Fed can just sit on that \$4 trillion balance sheet. Pre-crisis, they'd run it down to a very small share of the size of the US economy. You could even argue it wasn't large enough going into the crisis. It's above its long run average, but as the economy grows over time that may be justified. They may decide to slowly whittle it away in five or ten years, in a way that doesn't disrupt financial markets. The episode we just went through was very unusual. I don't foresee the Fed using this tool again, at least no time soon. There was so much slack in the economy after the global financial crisis that any concerns about triggering inflation were clearly overblown. The bigger concern is on the low side for inflation. Remember, the USD is the ultimate reserve currency. They can borrow against it and people will still hold USD come heck or high water. I'm not sure everyone could do that. It is, however, a lesson for Europe, and to a lesser standpoint Japan, that this route doesn't necessarily harm your economy or cause inflation.

On the weakening of currencies through monetary policy

Currency moves are often simply byproducts of monetary policy but, in most cases, a welcome byproduct. Japan has no problem seeing the Yen weaken, the ECB is happy to see the Euro weaken. Some countries do it explicitly, like Denmark. I think a weaker CAD is a welcome byproduct of Canada's rate cut as well. I think there's a quiet view at the BoC, which I share, that anything close to parity was not sustainable, longer term. The long term average for the Canadian dollar is just above \$0.80. The PPP for the Canadian dollar is just above \$0.80. But, just as it traded above fair value for an extended period of time, it can now easily trade below its fair value for a while.

On regulatory reforms around the world

I think increased regulation has played a role in, to use Stephen Poloz's phrase, the serial disappointment of the global economy. You could make the case that the pendulum had swung too far before the crisis and needed to come back.

Canada is less
cyclical than we were
50 YEARS AGO

On Canada's boom-bust cycle

We see oil prices stabilizing in the second half of 2015 and beginning to recover in 2016, with an average price below the mid \$50s for 2015 and just below \$60 for 2016, ultimately settling around \$75 to \$80 as the new normal. That's based on the marginal cost of the next barrel of oil to be produced, which is effectively the cost in the oil sands industry. If anything, those costs will come down. I think manufacturing will improve, but the CAD needs to stay at these levels or even lower for a while to lead to a medium term recovery. We've seen a cyclical bounce, especially with US auto sales getting back to pre-recession levels, but building on that takes a lot of investment. A couple things have changed from before the crisis. We've lost a lot of capacity in the auto sector, food processing, etc., more so than the US. Also, we have two huge new competitors in Mexico and China. Mexico especially in the auto sector, which is still our number one manufacturing industry. They actually produce more cars than Canada does now. They're getting most of the new investment, while we've had no new plants since the last decade. Some of their exports go to Latin America and elsewhere, but they're a very real competitor. On everything non-auto, China's the competitor. Canada is less cyclical than we were 50 years ago; the service sector has grown in importance over time. Still, we'll always be more cyclical than the US with higher highs and lower lows. Partly because of our resource sector, and partly because when the US economy booms we really boom and when they falter we really falter. I think we'll always be a high beta version of the US economy.

On Canadian debt to income ratios

We've relied on the consumer and housing to drive the Canadian economy for much of the last 10 years. We can't anymore. That doesn't mean that consumer spending can't grow, just not faster than the rest of the economy. We need a different growth driver. It's interesting that for the past four years, the BoC has lectured Canadians about taking on too much debt and then cut rates, encouraging us to take on more debt.

On housing

Some markets are overheated, or frothy as Greenspan used to say, which is just a whole series of little bubbles. Certainly Calgary and Edmonton are coming down, but that's tied to oil. The Vancouver and Toronto stories are more interesting, but I wouldn't use the word bubble for either. Outside those cities, we've seen very stable prices and not much in terms of sales. Montréal got a little overheated, but that activity simmered down. It's very hard for a housing market to pull off a soft landing but I think Montréal can.

On Canadian-US cross border shopping

The CAD's dropped 20% in under two years. With an \$0.80 CAD, a basket of goods in Canada and the US cost about the same, and might be even cheaper in Canada. Certain items will always be cheaper in the US and some people just like to make an outing of it, but casual cross border shopping has ended with the Canadian dollar at \$0.80. Now we have all these high end discount malls and they're just packed on the weekends. One of the big surprises over the past year has been how well Canadian retail sales have held up.

CHINA
is now the world's
biggest oil importer

On geopolitical risks

Most gulf countries have deep pockets. Saudi Arabia can certainly withstand a couple years of weak oil prices. The implications of Russia's behaviour are much more troubling. Russia's one of the biggest losers here, as are Nigeria and Venezuela. Russia's looking at a serious recession in 2015, their economy could shrink 5% or so. I see the turmoil in the Ukraine as the biggest political risk over the medium term. What concerns me is that the best strategy for a country facing an economic crisis is shift people's attention by creating conflict elsewhere. Turkey is actually one of the biggest winners from lower oil prices, but beyond them it's China, Japan, India and Korea. China is now the world's biggest oil importer, so their policymakers have room to stimulate the economy, whether through monetary means or fiscal. I think we'll see further stimulus moves by China to keep growth close to 7%.

On uncertainty

We're bombarded with so much information, not a lot of it good, so it might seem that there's a lot more going on than ever before. The early 80s were as traumatic in many ways, when we were in the peak of the baby boom hitting the labour force, dealing with double digit inflation and wild moves in oil prices, plus a wrenching recession. Now, not only have we had the big structural shift of China industrialising over the past 10 years, but that's layered on top of huge demographic shifts. We're still dealing with the long-tailed aftermath of the financial crisis and this weird environment of basically zero interest rates in many key economies.

Dated as July 2015.



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Named Canada's best capitalized bank and the world's third best by Bloomberg, the National Bank of Canada has nearly 20,000 employees and over 2.4 million clients. Chief Economist and Strategist for National Bank, Stéphane Marion leads an economics and strategy team named by Bloomberg as the best Canadian bank and third best global bank for their CAD-USD forecasts for 2012 and 2013.

Bloomberg named Stéphane top Canadian forecaster for the two year period ending in 2011, and again as one of the world's 20 best forecasters in 2013. With 20+ years in economic analysis in both the public and private sectors, including participating in the development of forecasting models and analysis of the FTA and NAFTA free trade agreements. Stéphane sits on the C.D. Howe Institute's Monetary Policy Council.

In our conversation with Stéphane, he cleared up a number of misconceptions, emphasized some unique points and explained which indicators he'll be watching out for and why. In Stéphane Marion's Insights, we share the highlights with you.

STÉFANE MARION

On the departure from forward guidance

Oil prices collapsed, with indications of labour market revisions pointing towards a more difficult time for Canada. The Canadian output gap might be larger than previously expected. Governor Poloz has been very clear in saying he wants markets to make their own expectations as opposed to asking him where rates are going. I prefer doing my own homework than relying on BoC forecasts, which haven't been very good anyway.

On oil prices

Oil's new normal depends on where monetary policy is worldwide. The correlation between the USD and oil prices is the highest it's been in over 20 years. It's more than supply and demand at play. Even the Bank of International Settlements put out a paper saying they can't explain oil prices based on fundamentals. If the Fed is less aggressive in the timing or amplitude of monetary policy than the market expects, that'll move oil prices a little higher. I would expect oil prices to average no more than \$50 through 2016. In my view, this would be enough to protect against a lot of downside for the Canadian economy. Oil and gas extraction might be just 9% of GDP, but the oil and gas sector accounts for 25% of nonresidential investment. Alberta accounted for 42% of Canadian household formation in 2014.

On interest rates

I don't see the BoC hiking for at least another year. 42% of Canadian GDP is now determined in the western provinces, that's unprecedented; and we've yet to see our ability to deliver strong export growth to the US given the lack of capacity in Canada. Much was lost because of QE in the US that allowed the CAD to remain overvalued for a number of years, and it takes time to bring new capacity online.

**42% OF CANADIAN GDP
IS DETERMINED
IN THE WESTERN
PROVINCES**

There's a rising gap between US auto consumption and Canadian exports, yet Canada is operating at 96% capacity utilization. It's gone elsewhere, mainly Mexico. Ontario and Quebec aren't as able to offset weakness in western provinces as in the past. You need to convince companies that the \$1.25-\$1.30 exchange rate is here to stay to convince investors to come back. We've enacted some key measures in the mid 2000's to offset a strong CAD, such as the lowest corporate tax rates in the OECD. This is the first time we'll see the impact of super low corporate tax rates, a cheap CAD and the highest US consumer confidence. I'm bullish on Canadian exporters' ability to deliver on the earnings front. We haven't benefited from a cheap CAD and consumer confidence above 100 in 20 years. It'll take time to assess the situation though, so there's no need to hike rates in the foreseeable future.

On Canada's record debt to disposable income ratio

That's a reflection of Canada's highest homeownership rate on record, at 69%. We have the strongest population growth of OECD economies for people aged 20-44, a reflection of our immigration policy. Our population growth is 50% stronger than that in the US, much stronger than any OECD country. We target economic immigrants and increased immigration quotas from 255,000 to 285,000 people per year, targeting those aged 20-44. The homeownership rate of immigrants in large cities like Toronto and Vancouver is higher than that of the native population, that's unprecedented in the US. The homeownership rate of immigrants in Canada is 10% higher than that in the US. 66% of our population growth comes from immigration, versus 13% for the US. People don't understand that and become very bearish on Canada. Do I think the homeownership rate can go higher? No, and that will limit the ability of consumers to take on more debt. That limits what the BoC can achieve with the transmission of monetary policy. You might cut rates but people won't react the same way. You already bought one house, you won't buy a second. Unlike in the US, you can't deduct your mortgage interest on your second home on your tax form, that keeps us from going into US-style consumer indebtedness overdrive. Also, the loan to value ratio is much lower in Canada. In the US, 30% of households still have zero to negative equity in their homes, the proportion in Canada is just 5%-7%. It's a whole different market. One million mortgages will be refinanced this year in Canada, probably 80 basis points lower

Stéfane Marion

than the effective current rate. For homeowners owing \$300,000, \$2,500 annual savings isn't bad so the consumer will be present. Once rates plateau or increase, that'll be more difficult. While the BoC won't admit to it, the rate cut was partially a justified currency strategy because inflation is likely to remain subdued with the combination of lower energy prices and low food prices and that's a big portion of your consumer price basket.



On the speculation of an impending Canadian housing bubble

There's no such thing as a national home price in Canada; Vancouver's median home price is \$600,000, versus just \$300,000 for Montréal. Where's your national home price? Quebec's top marginal rate is close to 50% whereas Alberta has a 10% flat tax. Home prices reflect arbitrage according to the divergence of income tax levels. In the US, you could argue that it's slightly more homogeneous. For there to be a Canadian housing bubble, prices would need to be rising across the country. The only house price increases in 2014 were in Calgary, Edmonton, Toronto and Vancouver. Anything east of Toronto showed either no increase or a decline. You have to look at them regionally and to take into account immigration policy and interprovincial flows. Toronto and Vancouver are still rising, but nowhere near as aggressively as before. To see significant downside there'd have to be a massive contagion to the rest of the country and a US economic relapse.

On the Fed balance sheet

A few years ago people thought the USD was in a structural decline, but the big surprise was that they were able to produce oil on an unbelievable scale. That protects the fundamentals of the Fed's balance sheet. There's no need for them to rush into anything, inflation is low. They'll just let these things mature, at some point they might stop reinvesting the proceeds. I don't see a problem with the Fed holding a vast amount of Treasuries. The USD remains the reserve currency which makes that good quality stamp even more important giving what we're seeing elsewhere in the world.

On the Fed hiking

We have them hiking at the end of 2015, conditional on the USD appreciating. Large currency swings can impact your economy, sometimes unexpectedly. 40% of S&P 500 earnings are derived overseas; as hedging activity unwinds, we're likely to see difficulties for US equity markets. I don't think the Fed will be very aggressive. They're still advertising 2.5%–3% as their endpoint, I actually think it's 2%. That would limit the impact the yield curve down the road much more so than 2.5%–3%, if that were true, then rates would react a bit more to an imminent Fed rate hike. Inflation is low, wage inflation is low, structural changes are still happening, we've yet to see the full transmission of monetary

policy on the homeownership rate in the US, which is still falling. The Fed has the luxury to act prudently. I think the tightening cycle will be different than the sustained hiking of the past. They might do 50 points, stay on the sidelines for six to eight months, do another 50 and stop to assess the situation. A significant tightening would risk derailing the US expansion.



On Europe

They try their best. Economic theory will tell you, if you want to buy time to prop up your economy, lower rates to generate an impact on the currency. That's what they're doing, and it should help their stock market. Since they can't achieve the full transmission of monetary policy through their banking system, they can try to do it through the corporate bond market. They're buying all the Treasuries out there, so a pension fund open to currency risk who wants exposure to fixed income assets might be enticed by Eurozone corporate bonds. That would change the European financing model. If it works, earnings could surprise on the upside. There's certainly some pent up demand after such a long recession. They'll try to move away from the traditional structure of having corporate financing always supplied through the banking system. If they succeed in developing higher corporate bond issuance, then they're on the right track. By late 2015 if nothing has happened, it'll have been a failure. If you can't get German Bunds and you need fixed income you'll buy something else. Historically, their investment policies are not designed to take currency risk. They have a strong home bias, so they might actually buy those corporate bonds. As to the crisis, Europe was slow in recognizing the losses to a certain extent because of their reliance on bank financing. The US had the luxury to move much faster on the bank side, whereas the impact on the real economy for the Eurozone would have been much greater if they'd followed the US model. I fully endorse David Dodge's comments that maybe the regulatory environment is too tough for their recovery. There will always be leverage in the system, we can do our best but by going to another extreme, you might undermine the recovery. Increased regulation could be a substitute for rate hikes down the road. We have to tread lightly.

Dated as July 2015.

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Canada's largest bank with \$1.09 trillion in assets, Royal Bank of Canada (RBC) Group has over 80,000 employees and some 18 million clients worldwide. As RBC's Chief Economist, Craig's team generates economic, fixed income and foreign exchange research. A regular contributor to numerous publications, he also delivers economic analysis to RBC clients and the media through Economics Department briefings.

Having been in the business for some 28 years, Craig sits on the British Columbia Economic Forecast Council, the Wilfrid Laurier School of Business and Economics Dean's Advisory Council, and the C.D. Howe Institute's Monetary Policy Council.

Craig deconstructs and guides us through the major economic and geopolitical factors influencing the world's economies, giving us an understanding of which factors we should look out for and why. In Craig Wright's Insights, we share the highlights with you.



CRAIG WRIGHT

On the BoC

The Bank of Canada continues to maintain a very accommodative policy stance as economic growth has consistently surprised on the downside. The negatives from the energy price shock have been large and the offset from accelerating exports has given strength to the US economy and weakness to the CAD.

The good news keeps coming from the labour market as unemployment remains low and job gains, largely full time, continue to be firm. Further gains in US growth and the increasingly competitive CAD suggest exports will play a larger role in economic growth over the latter half of 2015. In this environment, we think the Bank of Canada will remain accommodative through the early part of 2016, before moving interest rates modestly higher.

On the global view on Canada

People are looking for the shock that derails Canada's housing market, which they've been expecting to happen for years. We see housing cooling, not collapsing. With rates this low and a solid labour market, Canadians continue to buy homes. Debt to income is at a record high but cost of carry is at a record low; household credit's actually starting to rise again. The international view on housing is largely driven by price to income ratios across many countries, the comparative value of which is questionable.

There are more differences than similarities between Canada and the US. Canadian housing will be sustained as long as employment is sustained. Rates only go up when the economy is strong and

people have incomes. You need a fairly steep move in yields to get worried about housing. We've tracked housing affordability since 1985, looking at the proportion of pretax income required for principal, interest, taxes and utilities on an average home. What the data shows is that, for most markets and housing types, housing affordability is within its long run average. It's in the middle of the range it's been in for a while. Rates will eventually move higher and prices will soften. They offset. If Canadians have jobs, they service their debt.

On the Fed tightening

The Fed will tighten cautiously and conditionally as they're moving in an extraordinary environment in which many central banks have been particularly accommodative for a remarkably long period of time. This is effectively a great monetary experiment in which central banks are learning by doing.

The central bank reaction function is changing. In the past, when the economy was growing, you raised rates with a lagged impact to slow the economy to the speed limit and keep inflation from getting out of hand. Having been so close to a deflationary outbreak I think they'll wait to see inflation before moving on rates. People may say they're behind the curve, but I think they'd prefer that to potentially pushing the economy back down. Most central banks are more confident fighting inflation than deflation.

As to the drop in oil prices, usually we'd look through that and see that core prices are around target so we'd say there's no cause for panic, but if you're worried about deflation it's a different

**DEBT TO INCOME IS AT A RECORD HIGH BUT COST OF
CARRY IS AT A RECORD LOW, HOUSEHOLD CREDIT'S
ACTUALLY STARTING TO RISE AGAIN**

reaction. The US economy tends to do well when other economies aren't. With concerns around the globe, investors are looking for safe havens. The US Treasury market is deep and liquid, yields are low. The drop in oil prices gave the US consumer a tax cut of \$200 billion. They aren't terribly dependent on the trade side so global growth worries aren't much of an issue. They're driven by the consumer and 2014 was their best employment year since 1997. Wages are still low, though they've moved up slightly. In a period of uncertainty, workers tend to look for job security more so than wage gains. As things start to look more positive, they'll look increasingly to wages.

Much of the US recovery's strength has come from investment. I think wages will drift higher and help the consumer.



On Europe

Developments in Europe appear to be taking a turn for the better as policy makers have finally moved to contain the Greek crisis and have moved aggressively to a much more accommodative monetary policy stance. As a result, growth prospects are improving with an expected expansion of 1.5% for 2015, accelerating to just under 2% for 2016. The UK continues to be a leader for Europe, and across the developed world, with growth expected to come it at just over 2.5% in 2015 and again in 2016. The Bank of England will move interest rates higher while the ECB will stay low for a long stance.

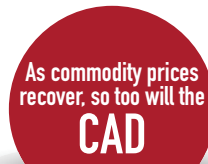
THE LOW PRICE OF OIL CURES ITSELF TO SOME DEGREE. THE US, THE EUROZONE, CHINA, THEY'RE GETTING A LIFT AS NET OIL IMPORTERS SO THERE WILL BE A LIFT IN DEMAND AS WE MOVE THROUGH 2015.

On oil

The low price of oil cures itself to some degree. The US, the Eurozone, China, they're getting a lift as net oil importers so there will be a lift in demand as we move through 2015.

Low oil prices also typically translate into a drop in supply as some of the higher-cost producers pull back. In the current environment, it appears that the politics of oil are playing a role equal to, or perhaps even greater than, that of the economics of oil. Supply from OPEC countries continues to feed an oversaturated market, and potential supply from Iran is not too far off. The net effects have been consistent downside surprises for oil prices, weakness for commodity exporting economies and pressure on commodity-linked currencies.

Historically, the CAD has had a tight relationship to commodity prices, energy and non-energy, which explains its current softness. As commodity prices recover, so too will the CAD.



On how similar Australia and Canada really are

Canada is levered to the US economy while Australia is levered to China, which was a stronger absolute growth story, especially through the global financial crisis.

Australia was heavily tied to commodity prices. They had a big investment boom that's cooling off, while we're still waiting for ours to take hold. They were investment led with a very low interest rate and their consumer debt levels make Canada look rather conservative. They won't get a lift that way because there's a limit to how much debt you want the consumer to carry.

Dated as July 2015.



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EXAMINING CANADA'S APPROACH TO DEBT MANAGEMENT

HIGHLIGHTS OF THE 2015–16 DEBT MANAGEMENT STRATEGY

- The debt program for 2015–16 is consistent with the Government's medium term debt strategy and maintains the focus on stability and the reduction of financial risk.
- Gross bond issuance is expected to be \$90 billion in 2015–16 and stabilize around \$98 billion over the medium term. At the end of 2015–16, the stock of marketable bonds is projected to be about \$507 billion.
- The Government will cease issuing 3-year bonds starting in 2015–16. This will allow for the building of larger benchmark sizes in the core 2- and 5-year sectors, which will increase liquidity and support the well-functioning of these important sectors.
- The stock of treasury bills is projected to decrease from \$136 billion at the start of this fiscal year to \$129 billion by the end of 2015–16.
- In 2014, the Government issued 50-year bonds for the first time. With a total of \$3.5 billion issued through syndication, these bonds were well received by investors and contributed to a reduction in refinancing risk at a low cost. Given the strong demand for long-term bonds and with long-term yields remaining well below their historical average, additional 50-year bonds may be issued in 2015–16, subject to favourable market conditions.



Credit: Couvrette/Ottawa

CANADA'S FINANCE MINISTER,
THE HONOURABLE JOE OLIVER

The CGB contract's trading volume, on a notional value basis, is 184% of that of the underlying Government of Canada bonds. How does such a liquid futures market assist the Government in reaching its funding objectives as per the Debt Management Strategy?

The Government of Canada's debt strategy seeks to raise stable and low-cost funding, while also ensuring that the market for Government of Canada securities functions well. Achieving stable, low-cost funding involves striking a balance between the cost and the risks associated with the debt structure.

A well-functioning securities market ensures that funding can be raised efficiently to meet the Government's needs regardless of economic conditions, and the Government achieves this by maintaining a regular and diversified borrowing program, over a variety of maturities.

A liquid futures market can potentially help promote the growth and sustainability of the broader financial market as futures can be an important vehicle for market participants to hedge or manage certain risks and help foster trading volumes. In addition, a liquid futures market theoretically helps increase the efficiency of the Government of Canada securities market as it allows investors greater opportunities to get exposure to the market beyond purchasing the securities outright.

The Debt Management Strategy announced that the stock of treasury bills will decrease to \$129 billion by the end of 2016. This comes at a time when increasingly rigorous regulatory requirements have led to rising demand for such instruments, which are used as collateral for centrally cleared trades. How might this evolving dynamic impact the short term interest rate market?

Annual debt management strategy decisions are made in the context of the Government of Canada's medium-term debt strategy, which serves as the fundamental building block. The medium-term debt strategy is informed by modeling analysis that reflects a wide range of economic and interest rate scenarios and is aimed at gradually transitioning the debt structure towards a more even distribution across maturity sectors.

The Government of Canada is aware of the increasing demand for high quality liquid assets and collateral for derivatives transactions. During the past few annual consultations for the debt management strategy, market participants have voiced their concerns about regulatory requirements and how they are affecting the demand for Government of Canada securities, and more importantly, their ability to source Government of Canada securities.

The recent decline in the stock of treasury bills, from \$181 billion at the end of 2012-13 to a projected \$129 billion by the end of 2015-16, is consistent with the Government's medium-term debt strategy, which has a Treasury bill share of around 20% of domestic market debt.

As the stock of treasury bills has been reduced recently and with treasury bills becoming more difficult to source, the BAX can provide market participants with a liquid way to hedge their short-term risks. It should be noted that in the late 1990s when the stock of Treasury bill was in decline as a result of an improved fiscal situation, the number of BAX contracts traded experienced sharp growth.



This extension of the Canadian yield curve comes at a time when many market participants are concerned that certain benchmark sizes are becoming too small. How do you balance the demand for bonds with longer maturities with the need to maintain minimum benchmark sizes?

The fundamental objective of debt management is to raise stable and low-cost funding to meet the financial needs of the Government of Canada. An associated objective is to maintain a well-functioning market in Government of Canada securities, which helps to keep debt costs low and stable. In order to meet these objectives, the Government strives to maintain an appropriate balance in its debt mix.

The Government is aware that liquidity in some bond sectors has come under pressure recently. As announced in the Debt Management Strategy for 2015-16, the Government is ceasing issuance in the three-year sector to allow for increased issuance in the core two and five-year sectors, which will increase liquidity and support the well-functioning of these important sectors. This is consistent with feedback received recently from markets participants, who have largely recommended ceasing issuance in the three-year sector as a way to support greater liquidity and the well-functioning of the market.

With respect to long-term bonds, the Government has pursued a tactical strategy since 2012-13 of reallocating short-term issuance towards long-term bonds in order to lock in additional funding. However, starting in 2015-16, issuance in the 10 and 30-year sectors is reverting to the previous auction pattern, as prolonged and elevated issuance in these sectors reduces the amount of short-term bonds that can be issued. However, to the extent that there are favourable market conditions, the Government may continue to issue ultra-long bonds in 2015-16 to lock in long-term funding at low cost.

After having been well received in 2014, the Debt Management Strategy states that additional 50-year bonds may be issued in 2015-16, subject to favourable market conditions. What factors would the Government consider when deciding whether or not to issue additional 50-year bonds?

In 2014, the Government issued 50-year bonds for the first time. With a total of \$3.5 billion issued through syndication, these bonds were well received by investors and contributed to a reduction in refinancing risk at a low cost.

Issuance in the 50-year sector is not a regular component of the Government of Canada's debt program. Any potential future 50-year issuances will continue to be viewed as a tactical strategy for the Government to lock in additional long-term funding at a low cost.

Given this tactical strategy, the interest rate at which the Government is able to issue is one of the key considerations the Government will take into account in deciding whether to issue additional 50-year bonds. The level of demand for ultra-long bonds is another factor that the Government takes into account in deciding whether to issue.



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SPECIAL REPORT

THE TRAILBLAZERS: OUTSTANDING WOMEN ON CANADA'S BUY SIDE

While Canada's broader financial sector employs more women than men, women are outnumbered five to one when it comes to financial markets. Yet, as study after study has shown, gender diversity leads to better decision making and stronger financial performance.

This special report features four Canadian women who've worked their way up the ranks of the buy side and are making the industry sit up and take notice. What do they have in common? An unassailable work ethic, a marked enthusiasm for the markets and a proven track record of embracing challenge and change. Over the following pages, they explain how they see the business and share some hard-earned wisdom we can all learn from.

These women are helping to pave the way for the future of financial markets. And the future is looking bright.



SANDRA LAU

SYNTHIA ST-MICHEL

ROSANNA BRUNI

GILLIAN BROWN



SANDRA LAU

Senior Vice President, Fixed Income
AIMCo



Sandra leads a team of investment professionals responsible for AIMCo's Fixed Income investments which includes bond, money market, currency and derivative assets. Sandra holds a B.Comm and a MA Economics and Finance from the University of Alberta, and is a CFA charterholder.

What motivated you to join the industry?

I was motivated to join the industry because of the market. It's so challenging and exciting, you never know what's around the corner. That's the nature of our industry. You pick up something new every day. I was motivated by the challenge, the newness and the constant learning.

Of what achievement are you the most proud?

Our fixed income team's mindset is to stay ahead of the curve. We believe that, to be a good portfolio manager, you have to stop chasing the same products over and over. A good manager should roll up their sleeves and identify the next best risk adjusted opportunity for the client. Our group works hard to find new opportunities for our clients during different market cycles. We've been a pioneer investor in a lot of new instruments, sectors and structures. It is that journey, the dedication of the fixed income team and what we've been able to achieve over the long term that I'm most proud of.

How has your career progressed to get you to this point?

I began as an analyst in forecasting after completing a B. Comm, major in finance, and a M.A., major in economics and finance. Following that, I started working as an investment intern at AIMCo's predecessor, the Investment Division of Alberta Finance, before it became a Crown Corporation. During my internship program, I rotated through areas such as fixed income, equities and mortgages, and realized that I really liked fixed income. I see fixed income as the core, and as fundamental to the financial market. So I pursued a career in fixed income and here I am 17 years later, still in fixed income, still at the same firm.

What are your aspirations

My biggest aspiration is to continue to get better as a money manager and leader. At AIMCo, we aspire to be world class in everything we do. I believe in perpetual development: continuing to update your investment philosophy, to educate yourself and to lead yourself and others. It's just like playing tennis or playing golf, you can never have the perfect stroke so you continue to work on it. It is a long journey. Our objective for fixed income is to keep delivering consistent risk adjusted returns above our client's benchmark. We focus on delivering client satisfaction by staying ahead of the curve and being the first to identify the next opportunity.

What challenges have you faced in this business and what advice would you give to women just starting out?

I think that in the investment business, or any other industry, there can be a shortage of women in senior roles and there are particular challenges for women in terms of work-life balance. There's no fast lane, you have to deliver and be better than the rest - be confident in who you are and what you do. Challenge is a powerful motivator. From when I started as an analyst to today, I've always looked at my job as if it were my own business. No matter what business you're walking into, be prepared to work hard and sacrifice. You have to care about what you're doing, no matter how big or small the task. The continuously changing backdrop of financial markets means you have to make fast decisions. The frenetic pace makes it a highly rewarding and enriching environment.

THE TRAILBLAZERS: OUTSTANDING WOMEN ON CANADA'S BUY SIDE



How does greater diversity benefit the industry?

Diversity allows companies to be open to innovative thinking and studies have shown that it enhances performance. Women can bring a unique view to improve the decision making process; it's important to have more qualified women taking on senior roles. I think the industry is moving in the right direction, we're seeing more qualified women taking board seats. A good example is here at AIMCo. We have two highly talented, experienced and knowledgeable women sitting on our Board. The next logical step is for the industry to promote and encourage talented and qualified women to take on more senior roles, and to offer more networking and mentorship opportunities to up and coming women in the industry. I have some informal mentorship relationships with younger women in the office; I hear them out, see what challenges they're facing, give them my two cents and share what I've experienced.

What should the worldwide investment community know about Canada?

Canada is a good source of investment diversification. It's a relatively small market, but a highly stable country with a very low debt to GDP ratio, a well-educated workforce, favourable taxation and government structure and a highly robust banking sector, which held up particularly well throughout the credit crisis and its aftermath. We are one of the few countries left with an AAA sovereign credit rating, which says a lot. I think Canada is well known by foreign investors, many of whom buy Canadian bonds because they understand how Canadian finance is structured and how stable it is.

Does AIMCo see derivatives as a good tool for risk mitigation?

AIMCo has used derivatives for a long time. In fixed income, we actively use Canadian and global futures contracts, either to hedge a portfolio or express a view, whether directional, market neutral or non-directional. Derivatives are highly useful tools, I don't just see them as instruments but as something to incorporate in my day-to-day investment decision making. If I'm buying a corporate bond, I can buy it in the cash or derivatives market. For a CAD-denominated bond, I can buy it in CAD or buy the same bond issuer in a foreign currency and swap it back to CAD. Derivatives expand our investable universe and give us more information when deciding what to buy or sell.

There's been much talk of regulatory reform in Canada and the US. Has the derivatives reform impacted your day-to-day operations or long term investment policies?

I see regulatory reform from two angles, one being the opportunities, the other being the risks. Most regulatory reforms have come about since the credit crisis. Banks now need to put up more capital and more liquid assets. To do that, and still increase shareholder value, they have to move away from low

return of capital businesses, which are usually low risk. That provides a perfect opportunity for fixed income investors like us to step in and take over those opportunities. The reforms have also impacted market liquidity. Banks are less inclined to make markets and to hold inventory, which is essential to facilitate liquidity. I can see the absence of liquidity posing a real risk during the next credit crisis or sell-off; who'll be on the other side? We got a little taste of that in October 2014 when the Treasury market had a rally of 20 to 30 basis points in a short period of time, what we call the "flash crash." It was a sign of liquidity dissipating in the fixed income market, which we're very conscious of and constantly monitoring for.

On the day of that flash crash, we noticed that the traditional liquidity makers backed away and the typical liquidity takers assumed the role of makers. As for the CGB, there were fluctuations in price levels but it was a record volume day which means the liquidity was there. We've seen a trend to the buy side providing as well as taking liquidity.

This will be a trend for the fixed income market. If the banks won't provide liquidity, who will? Look at what happened in the Treasury markets over the first half of 2015, part of it was caused by German interest rate movement, but the US market reaction was extremely volatile, and that was at least partially driven by the thin liquidity trend.

The wealth of information available to everyone can seem overwhelming. How does AIMCo deal with that information overload?

Information overload is constant and the market is always reacting to it. That's where your investment experience and professional judgment kicks in. Does what's happening justify the magnitude of the move in the market? That's part of the challenge. Market participants tend to react first and think later: they buy or sell before digesting the impact. When we find that the extreme price movement isn't justified, we'll step in and take the other side.

What are the major developments you're watching in the industry?

I saw credit derivatives market activities peaked before the credit crisis and then dropped off; now I'm seeing a lot of credit derivatives products resurface. The push for central clearing on interest rates and credit derivatives means setting up structures and posting margins, which is huge as well. This regulatory reform is unprecedented in my career, it seems the new norm for fixed income will be less liquidity and more rules. I expect the path to recovery will be very bumpy and volatile.

SYNTHIA ST-MICHEL

Vice President and Head of Trading
Intact Investment Management Inc.



As Head Trader since 2005, Synthia's key responsibilities include overseeing trading activities and providing strategic direction related to the investment teams. Synthia is a Chartered Market Technician (CMT) and CFA® charterholder.

What motivated you to join the industry?

I've always been passionate about math, that's what drove me. When it came time for university, I considered physics, math and finance. I got accepted everywhere so I had to choose and I decided to try finance first. After I got my bachelor's degree I went straight to work. My teachers were discouraged, they all said I should pursue my Masters since I had good grades. Coming from a hardworking family, I was eager to apply my knowledge and make a contribution at an early stage, rather than spend too many years studying. I started in a small business as an investment analyst. The beauty of working in a startup is you have the opportunity to take on different roles and responsibilities and learn by making mistakes. I got my postgraduate degree (DESS) in finance and my CFA designation at the same time, working during the day and studying at night. Even today, I'm someone who loves to learn and who needs to understand things thoroughly and in depth. I'm passionate about finance, it's fun because it's always moving, evolving, growing, and you need to continuously improve your knowledge.

What is your biggest aspiration?

This constant need to increase my knowledge motivates me to improve processes and enhance strategic decision making. On the personal side, fundraising for charities and helping people is how I try to make a difference. You can always give money, but giving yourself as a person, giving your time and helping foundations grow - that really motivates me. The commitment can be small and incremental, but if everyone were to make that same commitment, there's no limit to what could be achieved. I'm a Governor with the Fondation des Gouverneurs de l'espoir, which helps families with children afflicted by cancer.

What are the biggest challenges you've faced along the way?

My biggest challenges are also the achievements I'm most proud of. When I joined Intact Financial ten years ago, ING at the time, I was tasked with building an equity trading desk. They had no trading desk at the time and it was a challenging, even frightening, mandate. I was a trader but building a desk is another matter entirely. You have to determine the best approach, the most effective tools, and the right processes. My biggest challenge was gaining the confidence of the portfolio managers as a new hire, and being the only woman made that all the harder. If you want your changes to be adopted you have to go slowly and choose your battles, which isn't about fighting but about prioritizing and taking your time.

What are the advantages to being a woman in this industry?

A woman can bring diversity of opinion. Everyone around the table can envision a solution to a problem, but the more perspectives you have the better the solution will be. There's a huge willingness on the street to bring women on board to broaden the mindset and it's been shown that, the more diverse the group, the better the decision making.

THE TRAILBLAZERS: OUTSTANDING WOMEN ON CANADA'S BUY SIDE



What's your advice for women looking to make it in this business?

It's really a question of being confident in yourself. You have to express your expectations and your aspirations. People tend to wait for things rather than ask for them. I have an unconventional yet successful and fulfilling life, and I made choices that drove me here deliberately. I'm proud to say that this year, at Intact, we started a network of women in Quebec to try to help women and men in our firm learn how to develop their career, promote themselves and evolve. I myself have ten specific recommendations:

- Be visible
- Raise your hand
- Demonstrate interest and find what you're passionate about
- Build a strong network of men and women
- Surround yourself with people who will help you achieve your goals, personally and professionally
- Be an ambitious woman and have confidence in your choices
- Don't be afraid to make lateral moves, they'll help broaden your skill set before you achieve your ultimate goal
- Don't be afraid of making mistakes, there are valuable lessons to be learned from them
- Adjust to change, it's a reality
- Be confident in your capabilities, your intelligence and your character

What are the biggest changes you've seen in the industry?

In 2005 when I joined Intact, there were only two exchanges in Canada, now there are five exchanges plus alternative trading systems and dark pools. The market structure keeps changing, as do regulations, channels of communication and the diversification of the participant pool with new entrants like HFTs. The automation of the trade lifecycle has been significant as well, with huge changes in trading and order management systems. You need to continuously educate yourself on what's going on and to develop a development plan that ensures your team becomes progressively more knowledgeable, so that everyone can do the job.

How do you process information effectively when there's so much of it coming at you from every direction?

Surprises happen in the markets all the time. You need to be able to adapt quickly, to process and understand what's happening to envision the consequences. It takes a group, you can't do everything yourself. At Intact we're a small group, but we're in close proximity to one another. We have a lot of panel discussions and morning meetings. Our strategic asset allocation group watches what's going on from a macro perspective while the portfolio managers focus on sectors and firms. Communicating with each other frequently enhances everyone's understanding

and decision making. Each person evaluates the information that comes their way, processes it and makes the decisions they think are best. As a trader, you're there to have a view.

How can international investors get a good sense of what Canada has to offer and get to know and understand the trading community?

The best way to get a sense for the market and the community is to participate in associations and conferences. I used to be an international equities trader so I knew 97% of the world, but when it came time to start trading the 3% representing Canada, I had to ask for help. As part of BIMA (the Buy-Side Investment Management Association) I was able to leverage that network to my advantage.

Are derivatives one of the tools you use to mitigate portfolio risk?

At Intact Financial, we use derivatives in the investment portfolio to hedge and to modify the risk profile. We use those that work well for our needs, as long as the resulting exposures fall within our investment policy guidelines. It's important that we continue to increase our knowledge of derivatives to better understand what we can achieve through them. A benefit with listed derivatives is that you can implement the entire trade lifecycle from the portfolio manager decision to operations and middle office. There's a huge gap with OTC derivatives though, it's still a manual process and the lack of standardisation is a major issue. Our risk management and legal teams have to negotiate and implement ISDA and credit support annex agreements before we can even begin.

What is your biggest focus for this year?

One of our biggest focuses at Intact is increasing efficiency through automation to improve risk control and reduce execution, operational and financial risk. I see standardisation of products and greater uniformity of regulation as the way forward for global financial markets.

ROSANNA BRUNI

Senior Director, Head of Trading
PSP Investments



Rosanna Bruni, a financial services professional with over twenty years of experience, is Senior Director and head of the trading desk at PSP Investments where she oversees execution for portfolio managers in multiple asset classes. Prior to joining PSP Investments, Ms. Bruni held several senior positions including Principle at Genuity Capital Markets where she was responsible for developing the Montréal market from 2005–2010. From 2002 to 2005, she helped to develop the U.S. market for Desjardins Securities and, previous to that, she was Vice President, Sales/Trading, covering domestic and international accounts with Loewen Ondaatje McCutcheon, Bunting Warburg and Gordon Securities/HSBC.

How should growth and diversity be fostered in the Canadian investment community?

I think it should start at the academia level. Students need to understand what's available in all areas of our industry: analytical, front and back office, buy and sell side. I was recently on a panel of female leaders at an event by PSP Investments for young female finance students. They still have concerns about the industry but, with markets becoming increasingly globalized, we need diversity: different people with unique viewpoints. As a community, we can advocate this by being truly inclusive. The CEO, management and board of directors can also play a pivotal role by making sure everyone around the table has a chance to talk, be heard and encouraged. I'm always amazed when I am in a group and someone nonconventional comes out of left field and has the problem figured out spot on.

As a panelist speaking to these young women, what advice did you give them about establishing a career in a still somewhat male dominated industry?

Don't look at it as a male dominated industry. Look at it as an industry where you can explore your passions, be a professional, a hard worker, resilient and persistent. Don't focus on those barriers or let them set limits for you – push through them and you'll see the rewards. Know what you want and be flexible in your apprenticeship and route to your goals.

Have things come a long way since the start of your career?

Back in the 1980's, in equities, there were a lot more women traders, especially on the buy side. Not as many as the men, but quite a few. Over the years, as they left or retired, their replacements were mostly men. In those days especially, you really had to be assertive and tough to stay in this industry; I imagine that discouraged women. Today, there is more awareness around the importance of creating an inclusive environment. A greater balance is more acceptable, maternal leave isn't a sin anymore and paternal leaves are accepted or even encouraged. The playing field and the conditions have changed.

How have derivatives factored into your career and do you participate in the Canadian market?

My specialty is equities, though back when buy-writes were prevalent, I traded a lot of them. When pension funds shied away from them, I went back to trading cash markets only. My team at PSP Investments trades a lot of derivatives, they're part of our multi-asset trading mandate and are primarily used to hedge positions and manage risk. Many more pension funds are now looking to enter the derivatives market given that liquidity in Canadian derivatives has increased quite a bit. As more Canadian pension funds and money managers start using derivatives, the greater their volume, liquidity and availability, the more people will start to see that they are a tool and, if used properly, a great tool.

THE TRAILBLAZERS: OUTSTANDING WOMEN ON CANADA'S BUY SIDE



What motivated you to join this industry?

I started as an assistant to the trading department and thought what my colleagues were doing was incredibly exciting. I got the bug. Back then, you worked hard and learnt from your senior colleagues. I was very fortunate to work with some outstanding people who supported my ambition. I learned a lot, took the courses and got my licenses. Today, however, you need to get your formal education first, which I support 100%. I love the action, having a front seat to the world events and seeing their impact. Technical skills are extremely important, but sometimes there's a lack of that all-round perspective. The way news is disseminated today, it's instant, global and overwhelming. That's why the role of the trader has changed so much, with these technological advancements, traders need to be more macro and able to respond quicker than ever before. That's changed our industry in a big way.

What is your greatest achievement?

My children, Elisa and Eric. Back in the day a lot of people chose to stay home, but I chose to work and was a better person for it. I'm gratified to see two well-adjusted individuals on their way and pursuing their passions.

What are your aspirations?

I've been Head of Trading at PSP Investments for almost four years now. Since joining, I have focused on increasing the expertise and efficiency of the trading team to better serve our portfolio managers. I have changed the way the team works so that each trader is now assigned to one specific investment team, and recruited coordinators who free up time for traders to concentrate on trading and gathering information. Paperwork and back office duties are important and need to be done diligently so we now have two full time people taking care of that. I have also enlarged the pool of prime brokers we do business with, which provides better volume, liquidity and rates. I plan to continue building the trading desk so that it keeps up with the rapid pace of PSP Investments' growth. I want to offer greater expertise in our multiple asset classes and provide best execution and price discovery. As for my personal goals, I'm privileged to be able to serve on industry boards, such as BIMA and the charitable foundation BBB, which provides startup assistance, primarily for charities involving children. It was started by three traders, Bill Brooks, Arthur Broniszewski and Vince Bona, and has been well supported by the Montréal community. In fact, we've raised \$2.5 million since BBB's inception in 1995. In the future, I'd like to be at the service of a corporate board. My involvement with these associations has been really interesting and that's what I recommend for newcomers, to get involved, especially with local groups where you can get to know your community.

How important is it to have those connections and be able to pick up the phone and call around when you're looking for liquidity?

We've always operated on the phone and through relationships, though over the past 10 or 15 years that's changed somewhat. On the cash side there are still morning calls from our brokers, but emails and Bloomberg chats have become quite popular and provide lots of information all day long. Our skills have changed from having a voice and intonation to go off, to having all this global news to process and a text on a screen to evaluate. The phone calls are so useful, you can read into a voice a lot more.

Are these technological developments the biggest changes you've seen over your career?

The technological developments and the globalization are the biggest changes I've seen. Everything's correlated now. We're seeing an evolution in technology with derivatives as well. Now we have to clear SWAPs and CDSs and, as more of that regulation takes hold, we'll see even more innovative products coming to market. Technological advancements are here to stay and they'll keep the markets on their toes.

GILLIAN BROWN

Director, Equity & Derivative Products
Tactical Asset Allocation and Natural
Resources Group Department
Ontario Teachers' Pension Plan



Gillian is responsible for the trading of all equity derivative products at the pension fund. Gillian oversees the internally managed market neutral portfolios that focus on index volatility and correlation. Gillian sits on the Credit and Counterparty and Central Clearing committees of the Investment Department.

Gillian is a member of the Canadian Markets Infrastructure Committee, a financial industry participant based group created to work with Canadian regulators and public authorities to develop central clearing requirements for over the counter derivatives in Canada. Gillian also sits on the board of the Toronto chapter of 100 Women in Hedge Funds. Gillian earned her Bachelor of Commerce from McGill University in Montréal and is a CFA® charterholder.

What motivated you to join the industry?

My motivation to join this industry really started with a very fortunate opportunity to join Ontario Teachers'. While doing my undergrad at McGill I came across a summer position in the operations group at Teachers'. This was when the plan was expanding into capital markets and direct investing, so it was an interesting environment to be in.

What has kept me here at Teachers' and in this industry since then is a career that's dynamic, challenging and interesting – where I've been able to progress from the operations team, to an equity trading desk, to a derivatives trading desk, to managing risk in derivatives markets, to managing a team of people who manage risk in derivatives markets.

Derivatives provide lots of potential for a long and interesting career path. They adapt to market conditions to find the balance the market requires between risk and insurance. To me, it's the most fascinating market you could possibly be involved in; it's hard to envision a time when it would stop being interesting. I get to come in every day and be part of a team where we're constantly debating new instruments and finding new ways to access a risk premium we find interesting. The fact that derivatives allow you to target and measure your investment exposures directly brings a great discipline to the investment process.

The sheer volume of information you have to process could so easily become overwhelming. How do you filter what's really relevant?

We have a news service through our communications department that picks out references – not just to deals we may be involved in but also to industry developments, in general. I'm fortunate to work in an organization where there are product and market experts surrounding me. When I have a question, I go to the smartest people I know in that area.

One of the benefits of experience is learning to not be swayed by a lot of the noise. I don't objectively know what the "noise"-to-legitimate-information ratio is in the market right now, but it feels very high. I can't describe the process that goes on in my head – how I know what's not going to be of value – but experience has taught me how to filter out a lot of what I don't need.

What are the biggest developments you've seen in the industry?

With derivatives, the story over the past few years has been regulation. I've been involved in our preparation for central clearing, which is just one aspect of recent regulatory changes. There are so many regulatory bodies examining derivatives

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markets simultaneously, trying to develop rules globally. It's very challenging to anticipate. We're trying to ensure we're prepared, without running ahead of the pace of regulation, so as not to waste effort. These changes are influencing how banks do business, which business lines they see as profitable, how people manage their collateral, their liquidity. It's a massive change for financial markets. I don't think we know what the end state will look like yet.

Outside of derivatives, other big developments I've witnessed are the growing dominance of technology in capital markets and the huge growth in ETFs.

Do you still consider this a male dominated industry? What challenges have you faced over your career?

I still think this is a male dominated industry but it has improved over my career. When I started in derivatives markets, I was surprised to find I was quite often the only woman in the room. It was a little awkward for me, but that went away as my confidence grew in my ability to stand on equal ground. Now there are more women in the room but it hasn't yet got to the point where I think it needs to be. We need to find ways to attract women to finance (and particularly risk taking roles) and find ways to attract managers to the benefits of having a more balanced team with strength of diversity in opinions. Once we get the right balance of people in the door, we need to focus on promoting that balance to more senior management levels as well.

At this stage of my career, my challenges aren't related to gender, they're about how tough this industry is and how the environment is more competitive than ever. Markets are more challenging, regulation has a greater presence, business lines are changing; there's no room for complacency. In our current environment, you can't sit back and say with any confidence the strategy you've used successfully for the past month will work next month. We need to constantly question and challenge all of our ideas about investing. We need to be focused on searching for the next opportunity.

How do you think growth and diversity can be fostered in the Canadian investment community?

It's not just about saying you support diversity. It's about believing there's power and success in having a diverse team, a breadth of opinion, and a debate that gets you to better solutions. You want as many points of view as possible, and the male/female split is a powerful tool you can exploit for better investment management. Everyone needs to be committed to the idea that there is real value in having diversity.

How do you convince women to pursue opportunities in this great industry? I think you need more senior women getting out there and telling people why this is a great business, how interesting and satisfying a career in investments can be, and what a great asset derivatives-proficiency is in this business.

Have you achieved your biggest aspiration or are you still looking to accomplish it?

I try not to get hung up on titles; instead, I focus on the kind of work I want to do, the value I can bring to Teachers' and how I want to interact with my colleagues while doing that. I want an environment that's full of respectful debate and challenge, where we all get better together, surrounded by smart people from all asset classes, backgrounds and skill sets. I get to participate in that here – bringing my best game every day. It's finding out who you are and where you can be of value. Combining those two in a career is powerful, and I think I'm there. The challenge is figuring out how to stay there every day.

What's your proudest achievement?

I take great pride in my team and the work we do focused on trading derivatives for our own portfolios but also the advice and support we give to others to include derivatives within their investment strategies. We get to collaborate with such smart people: experts in fixed income, credit, hedge funds, private capital, infrastructure, currency and commodities. It's a demanding and thriving environment to work in.

Connected Participants:

Meet

Fidessa



MARTIN HAKKER

How did you get involved in the Canadian market?

I started with Fidessa in 2010 as Executive Vice President of marketing in the US, and moved to Toronto to run Fidessa's Canadian operation just prior to the global financial crisis. Since then, I've seen a lot of change in the Canadian marketplace, but with it tremendous opportunity. In May 2015, Fidessa Canada marked its 10 year anniversary.

How does the Canadian landscape contrast the global landscape?

I think there's a misnomer that the US and Canadian markets are the same or highly similar. While we share a common border and have many inter-listed securities on the equity side, there are many differences too. From a trading perspective we use different terminology and from a technology perspective we have different venues, plus the markets have different rules and regulations. That said, we do share some of the same challenges and opportunities, from trading costs and lit vs dark markets to high frequency trading. I'm glad that Canada looks at things differently, sees what's worked elsewhere and doesn't just follow what's been done in the US. I'm proud of the work we've done and how closely we've worked with the Canadian markets and regulators – they've been very open to working with technology firms like Fidessa, which is different from what we've seen in some other regions.

Fidessa has been very responsive to all MX features and functionalities. Why is that?

We're committed to excellence and to delivering highly innovative, asset-class specific workflow. Fidessa Canada has about 50 people, but being part of a global company that serves global markets is key. For example, we were familiar with SOLA from building out to IDEM, so we leveraged that here in Canada. Our global derivatives team has been a tremendous asset to us here in Canada as well. As to responsiveness, getting the mandatory changes right the first time comes from our close relationships with the exchange, the regulators and, of course, our customers. The non-mandatory changes are usually customer driven, and we continually upgrade our infrastructure as markets evolve and grow. We constantly look at our priorities and those of our customers, and search out ways to offer innovation. Our collaborative relationship with MX is something we don't always see elsewhere, and we genuinely see ourselves as partners offering solutions to the end users.

What are the benefits of using of the Fidessa platform?

A market leader on the buy-side and sell-side, Fidessa has been around for over 30 years and is listed on the London Stock Exchange. We have 1,700 employees, over 300 order management system clients, 24,000 end users and are connected to 200 markets. We have sound financials with no debt, and over 90% of our clients take managed services of some sort from us. We offer complete workflow automation, from order inception to clearing, across multiple asset classes and at a global level. That's unique. We can replace multiple individual asset-class systems with one integrated solution. The operational benefits alone are highly significant. We work closely with our customers on product evolution and prioritize enhancements in line with their business drivers.

Where does Fidessa have operations and connectivity?

We have operations worldwide and are headquartered in London. We have connectivity to global markets. We recognize the need to have local expertise on the ground in each region to ensure we fully understand and are closely connected with each marketplace. Our regional support centres work as a united whole to provide a seamless 24 hour 'follow the sun' service. In Canada, the early mornings are covered by London and the late evenings by the Far East.

What separates Fidessa from the competition?

We are unique in being a trading technology firm that serves both the buy-side and sell side with multi-asset solutions, globally. The knowledge and expertise this gives us allows us to build innovative solutions for both communities. We develop and maintain all of our technology ourselves, from trading software to market connectivity to market data. We're focused on and driven by what we do best – trading related solutions for financial marketplace participants.

How has the trading environment changed over the last 10 years?

Everything was regional in 2005, now it's all global. Electronic workflow was limited, now practically everything's coming in via FIX. In 2005 you'd license software and run it yourself, now everyone is looking for managed solutions. And the way our clients' trade has changed too – whether it's follow the sun order hand off or advanced execution algorithms, they're all looking to do more with less.

FUNCTION	2005	2015
Solution Geography	Regional	Global
Screens	EMS Orientation	EDOMS Orientation
Electronic Workflow	Limited/Disparate	Standard
Operating Model	Entreprise	Hosted/Managed
Order Management	Limited/Disparate	Standard
Data Management	Regional/Disparate	Global/Consolidated
STP	Manual	Integrated
Order Handover	24h/night desks	Follow-The-Sun
Algorithms	Time-Sliced	Advanced Execution
Pre-Trade Risk	Fat Finger Checks	IM (initial margin) & SPAN (portfolio)
Regulation	Light	Heavy
TCA	N/A	Standard

How do you foster excellence in your people?

It starts with our internal training program that covers all aspects of the business, from technology to understanding the financial markets. We also take people from one area of our business and expose them to other areas. For example, we take people from our support desk and have them work onsite with a customer for a go live to better understand the real end-user needs. We also provide opportunities for staff to move between the different areas of our business, or to other regions of the world. We encourage people to take initiative and take ownership, a philosophy that hasn't

changed while the company has grown. We always remind staff that the customer is our number one priority and that's where our focus needs to be.

Which of Fidessa's accomplishments are you most proud of?

There are many accomplishments I'm proud of: signing the first of our 30+ Canadian customers in 2001, opening the Canadian office in 2005 to demonstrate our commitment to the marketplace, signing of our first hosted client in 2008, and signing our first global derivatives customer in 2013. But the biggest accomplishment overall has been the organic nature of our business growth, which all comes down to the hard work and dedication of the local team here in Canada.

How would you suggest international investors get a feel for and exposure to the Canadian market?

MX does this well with events like Trade Canada which is hosted in a number of countries, explaining the benefits and opportunities of trading in Canada. I haven't seen many of these from elsewhere. MX brings partners who explain how they can facilitate that trading and these events are well targeted, with the right audience and the right partners. While it's important to attend the big conferences, your message can get lost there. MX has done a phenomenal job with these targeted events. People always look for trading opportunities in other markets, exposing them to the opportunities to be had here in Canada is key.

How easy is it for an international client using Fidessa's services to add Canada to what they're doing?

Because we use a common core trading platform globally, it's quite easy. They can route order flow to one of the brokers on our network who facilitate non-member trading in Canada market, or add a direct trading link if they want to trade the markets as a member. We connect to around 4,000 people on the buy-side, 900 brokers and 200 markets globally. Whatever solution they chose, it's seamlessly integrated in to the Fidessa platform they're already using.

Who is Fidessa's typical client?

Sell-side. Buy-side. Boutique broker. Global FCM. Asset manager. Hedge fund. There really isn't a typical Fidessa client, except that regardless of their size, their focus or their location, they want the best solution possible at a highly competitive price-point. That typifies a Fidessa client.

Connected Participants:

Meet

QJ Trader



JEAN POUCHET

Tell us about QJ Trader's service offering.

QJ Trader facilitates futures, options and equity trading. We specialize in Canada, it's our home base and where our clients primarily trade. We've built components around the platform for price feeds, back office operations, risk management and any other component a broker or client could need. We're collocated with direct access to all Canadian exchanges and price feeds. We also have access to foreign markets.

What sets QJ Trader apart from the competition?

QJ Trader serves independent traders. I myself traded on the floor and even did MX's first electronic trade in September 2000. We used a platform furnished by MX for quoting options as a market maker. When the floor closed we decided to build our own platform. First we focused on our own needs as MX options and futures traders, then we focused on the needs of the independent traders around us. We grew slowly over time, adding the features independent traders wanted. It suited us to grow with them so we never rushed into massive deployments. Still, our clients have traded the most BAX contracts of any platform since MX went electronic.

How do strategies get built into tools?

We have an API (application program interface) through which clients can build their own tools and code their own strategies, but our clients are independent traders so that isn't their forte. We develop commonly used strategies into built-in tools, but we also do independent scripting of customized strategies. It's a fast process and has gained a lot of traction. You never know when new ideas will surface, when the market, players or strategies will change, so we're always observing and looking for an edge.

How do these tools help independent traders to trade more efficiently?

Independent traders may want to get in and out of the market quickly. We facilitate vision and action. We have preprogrammed strategies and tools that reveal liquidity differently than other platforms. Speed is important, it helps you manage your book well. Our tools let you into a strategy in one click. No one platform can suit all market participants; the idea is to get into a niche where you can serve a specific clientele, at the right price.

What qualities make for a successful independent trader?

One who gets results. Some qualities develop over time. You have to learn it to be good at it in the way that works for you. You might find you're better at short or long term, at position or scalping. Understand all strategies that can be traded in the market and figure out which best fit your market personality. Discipline and risk control are important, but they have to apply to your market. You can be disciplined by setting rules or using strategies that incorporate that discipline, or by always exiting at the right time because you follow the market closely. You can think ahead in terms of entry and exit point, or be very sensitive. You can make or lose either way. I'd say the key qualities would be: understanding, discipline and humility.

Why consider independent trading as a career?

At the beginning you want to prove yourself. After that you continue either because you're successful or stubborn. It's about freedom and the ability to see immediate results. Not all traders will succeed, it's a tough job. You need to be analytical and evaluate risk-reward, rely on the fear and greed of others, not on your own. The result is 100% yours, positive or negative. There's a world of opinion on macroeconomics which is good and important, but which could be irrelevant during a single day trade. You can be in and out of a trade the same day and carry no positions. Trading provides opportunities for everyone, but you need to be aware of the risks involved. You work by yourself, for yourself, under the supervision of the markets. That's how you learn.

How would you suggest a prospective independent trader prepare themselves and get a feel for the business?

Try to achieve something, see if you can be disciplined, in any domain. If you're confident, have some knowledge and can dedicate yourself, join a trading group to learn what others are doing, what the strategies are. Trade for real, but start as small as possible and increase by small increments. A job in finance or as an independent trader are two completely different things. I think hedged option trading is the best way to get started, the hedge relieves some of the fear so you can trade smarter; be more patient. Freedom of mind makes a big difference with trading. Understand what you're doing and review your process constantly. Find a friendly broker for independent traders; just be aware that there aren't many in Canada that allow leverage and leeway in your trading.

What's changed since MX went electronic?

There's no comparison. On the floor market makers were a friendly and collaborative group, I used the MX quoting machine and order entry personnel. I was responsible for my own option classes; there was no competition. Now it's the inverse: algos are highly prevalent, there's competitive market making, competition on speed is never ending. Strategies have evolved, everyone has their own so it's harder to understand moves in the market. All that said; you could trade well or poorly then, just as you can now.

The market has evolved significantly with regulatory reforms and electronic trading rules. In 2014, MX extended its risk management offering with PTV (the Pre-Trade Validation) API. How does PTV help participants manage risk?

PTV is built right into the exchange trading engine, no risk management can beat that. In terms of efficiency, it's the best place to be. It's another level of protection that gives you more confidence that everything can be stopped when and as necessary. Things happen, the network can go down, the server, etc., so protection at MX is ideal. Plus, you can combine it with your own risk management solutions.

What is the right direction for MX?

It's about fair and easy access. Racing to get faster doesn't help that, it just increases the cost of competition. The markets need more people trading, not just a concentration of algos. What if one gets better than the rest? On that point, why not have the logic of an algo be tradable like a commodity?

How can we grow options trading in Canada?

On the retail side, clients need to understand hedging and combination margins. Options need consistent follow up, so a good alert system is key, as is emphasizing a game plan that focuses on the long term, not just on strategies for specific events. The exchange, broker and platform need to work together. If each says it's the other's job, we won't get anywhere.

How did you get started in the business?

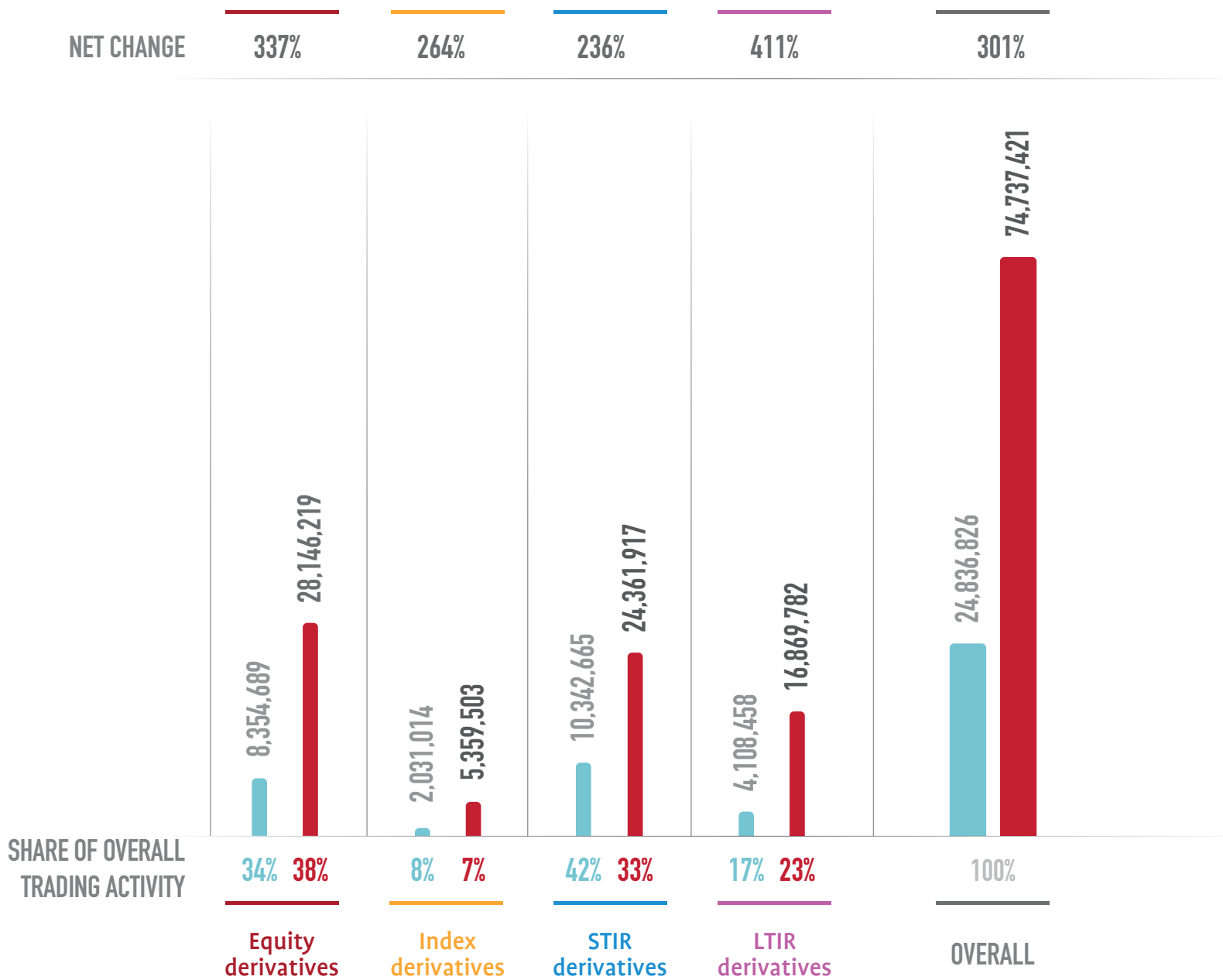
In 1996, I took MX's derivatives course. It's because of the exchange I'm here today. They put me on the floor and I joined a market making group as an options specialist. It took confidence for MX to do that.

What does the future hold for QJ?

The idea is to better serve our clientele, however that manifests. If I have a commitment, I'll gladly expand any part of QJ. I like to help independent traders refine their trading with the QJ Platform. I'm always just looking for the next traffic signal.

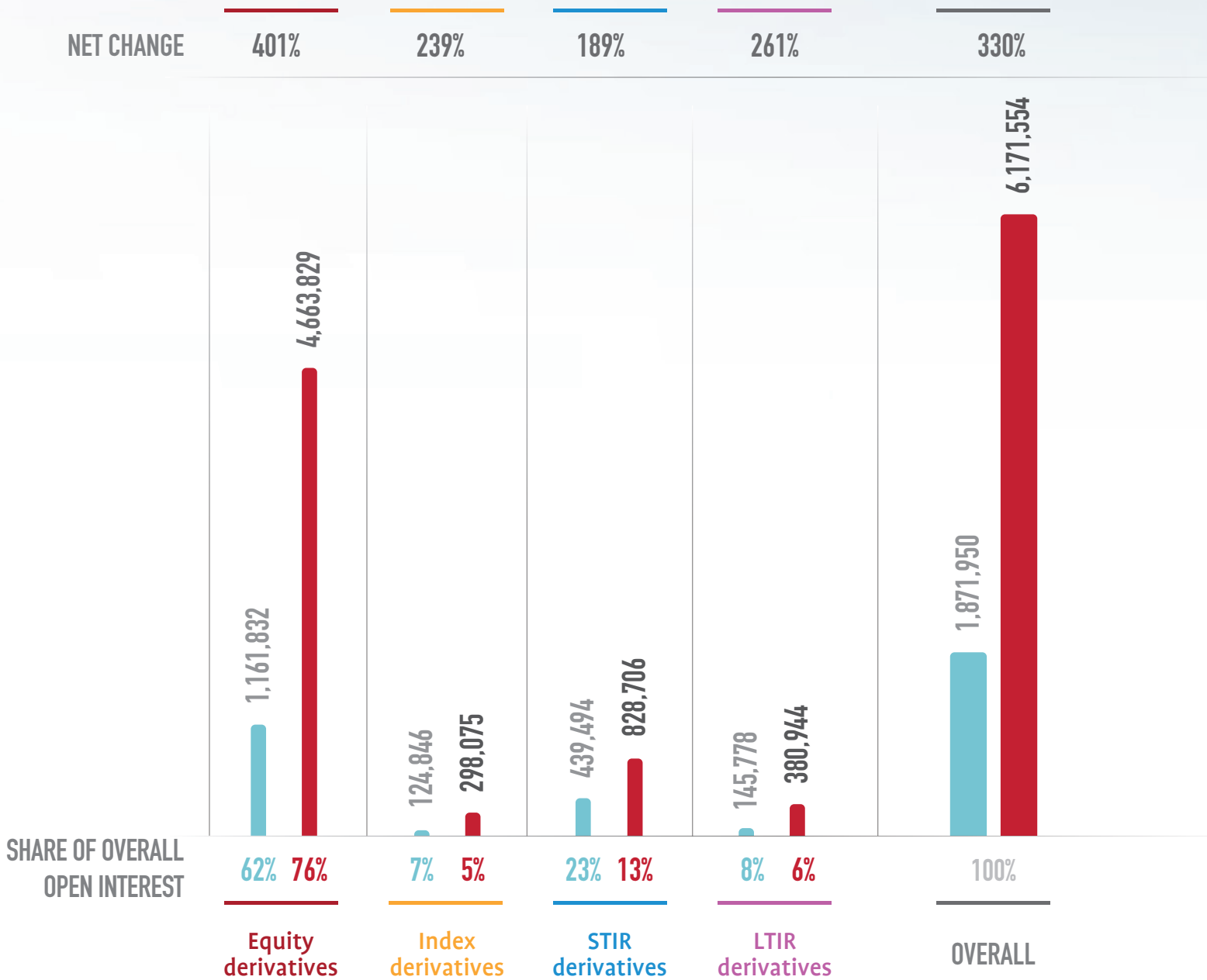
Montréal Exchange volume and open interest: TEN YEARS OF EVOLUTION

TRADING VOLUME



August 2004 to July 2005 ■ August 2014 to July 2015

OPEN INTEREST



August 2004 to July 2005 ■ August 2014 to July 2015

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1. Claude Cyr began a new role within the TMX Group as Managing Director, Energy Commodities & Clearing, NGX in September 2015.

Acronym Glossary

API:

an application programming interface

AUD:

the Australian dollar

BAX:

Three-Month Canadian Bankers' Acceptance Futures

BoC:

the Bank of Canada

CAD:

the Canadian dollar

CDSs:

credit default swaps

CGB:

Ten-Year Government of Canada Bond Futures

CGF:

Five-Year Government of Canada Bond Futures

ETFs:

exchange traded funds

FCM:

a futures commission merchant

FIX:

a protocol for order routing

FTA:

the free trade agreement

G7:

The Group of Seven is a government forum of the world's leading advanced economies.

GoC:

the Government of Canada

Greens:

The Greens start with the ninth quarterly delivery month and cover all quarterly months in year three.

HFTs:

high frequency traders

IDEM:

the Italian Derivatives Market

ISDA agreements:

An agreement used in OTC derivatives transactions. ISDA stands for the International Swaps and Derivatives Association.

LTIRs:

long-term interest rates

MX:

the Montréal Exchange

NAFTA:

the North American Free Trade Agreement

OECD:

the Organization of Economic Co-operation and Development. International organisation helping governments tackle the economic, social and governance challenges of a globalised economy.

OTC:

Over-the-counter. Trading off-exchange via broker-dealers who negotiate directly with one another.

PPP:

purchasing power parity

QE:

quantitative easing

Reds:

Futures are differentiated by colours to identify each group of contracts. The Reds start with the fifth quarterly delivery month and cover all quarterly months in year two.

SOLA:

MX's trading platform

STIRs:

short-term interest rates

STRIPs:

Futures in sequential delivery months, grouped in a single security. STRIPs allow investors to secure conditions such as yields for a period of time equal to the length of the STRIP.

SWAPs:

A contract in which the parties trade liabilities on outstanding debts, exchanging fixed interest-rate for floating-rate debts with the purpose of managing debt.

SXF:

S&P/TSX 60 Index Standard Futures

The ECB:

the European Central Bank

The Fed:

the U.S. Federal Reserve Bank

USD:

the U.S. dollar

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